

# American SOCIOLOGICAL Review



- Experiences in Interdisciplinary Research *Dorothy Swaine Thomas*  
Patterns of American Stratification *Paul K. Hatt and Virginia Ktsanes*  
Trends in Social Stratification: A Case Study *August B. Hollingshead*  
Associational Activities of Rural-Urban Fringe Residents *Walter T. Martin*  
Letters to the Editors of the Soviet Press *Alex Inkeles and Kent Geiger*  
Personality Inventory in the Study of Juvenile Delinquents  
*Starke R. Hathaway and Elio D. Monachesi*  
Social Correlates of Psychological Types of Delinquency *A. J. Reiss, Jr.*  
Desertion and Divorce in Philadelphia *W. M. Kephart and T. P. Monahan*  
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No. 6

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## EXPERIENCES IN INTERDISCIPLINARY RESEARCH \*

DOROTHY SWAINE THOMAS

*University of Pennsylvania*

THIS address will be concerned with experiences in interdisciplinary research that began in 1921, during my junior year at Barnard College, and are still continuing.

Sociology at Barnard, in the early 1920's, was a very insignificant appendage to the Economics Department, and William F. Ogburn served as chairman of the joint curriculum. I took both economics and sociology with Ogburn, and was greatly influenced by his emphasis on the relationships between economic and social phenomena, his tendency to view the economic as independent and social phenomena as dependent variables, and his insistence on objectivity, verification, and measurement. At the same time, I studied and enjoyed elementary statistics under Chaddock and Ross, and was fascinated with the empiricism of anthropology as taught by Boas. Thus, my research orientation came, early and simultaneously, from several disciplines, and my first two research papers,<sup>1</sup> prepared under Ogburn's direction and published in collaboration with him in 1922, were interdisciplinary in the sense that the one, dealing with the incidence of simultaneous inventions, involved explorations into the history of science and into cultural anthropology, and the other combined the data and pro-

cedures of economics, sociology, and statistics to measure the relationships between business cycles and cycles in demographic phenomena (marriages, births, deaths) and in indices of social disorganization (suicide, crime, divorce). In the latter, we applied new techniques of time-series analysis that were then being developed by Harvard economists to an old problem, aspects of which had been approached in other ways by many other investigators, especially in England. The Harvard techniques seemed to promise greater precision than those used previously elsewhere, but their systematic application to all available American data yielded inconclusive results. Attributing their inconclusiveness to discontinuities and other imperfections in American data, I felt that it would be worthwhile to explore the problem further, with English data. Then, too, I wanted more advanced statistical training, and England was notable for its great statisticians. Moreover, I wanted to go abroad. So, in 1922, I entered the London School of Economics to study advanced statistics with Arthur L. Bowley, and to prepare a dissertation, under his and Sir William Beveridge's direction, on social aspects of English business cycles. I immediately discovered that I had too little mathematics to attain proficiency in advanced statistics and it seemed too late to build up this background without slowing down the momentum I already had in empirical research. Moreover, Bowley thought I could get along without it. The important thing in applying statistical methods to social phenomena, he said, was to understand the assumptions underlying the methods and the limitations

\* Presidential address read at the annual meeting of the American Sociological Society held in Atlantic City, New Jersey, September 3-5, 1952.

<sup>1</sup> "Are Inventions Inevitable? A Note on Social Evolution," *Political Science Quarterly*, March, 1922, and "The Influence of the Business Cycle on Certain Social Conditions," *Quarterly Publication of the American Statistical Association*, September, 1922.

of available data in relation to these assumptions. I therefore studied just enough mathematics to be able to follow Bowley's lectures, which were based on Part II of his *Elements of Statistics*, but which were not, by my definition, elementary. My painful experience in following his derivations did, however, make explicit the dangers of my tendency toward too-facile application of statistical techniques. I don't think I ever used a probable error again, and although I continued to apply theoretically inapplicable correlation techniques to observations ordered in time, I began to proceed more on the basis of calculated risk, and less on the basis of faith. In contrast to his lectures, Bowley's seminars dealt almost exclusively with the measurability of data to which statistical methods were applied, rather than with the methods themselves, and in these seminars his students learned by exploring data from many diverse sources how and under what conditions to press for precision and to tolerate imperfection. While studying with Bowley, I also worked closely with T. H. C. Stevenson, of the Registrar General's office, who helped me to collate and organize the statistics for my dissertation and I found that, whereas English data were, indeed, superior to American, they too were subject to underreporting, to systematic biases, and to many compensated and uncompensated human and mechanical errors. In the course of two years, I learned to live with my data as well as with my techniques and I completed *Social Aspects of the Business Cycle*,<sup>2</sup> which was essentially a repetition of the American study, but with the addition of a number of other "dependent variables"—among them emigration—and with much greater specificity in series used as indices of crime and delinquency.

After completing my Ph.D. in economics in 1924, I spent a strictly disciplinary year as statistical assistant at the Federal Reserve Bank of New York, where I fitted trends to economic time series and computed indices of seasonal variation and learned—as I had not learned in statistics—the necessity of arithmetic accuracy. During this year, too, I filled in some gaps in my train-

ing by studying economic theory under Wesley Mitchell at Columbia University. Although I had, and continued to have, low tolerance for formal theory which was not directly related to empirical research, I learned from Mitchell, the great empiricist, to accept theories as part of the data with which social science is concerned.

Toward the end of 1925, I received a research fellowship from the newly-organized Social Science Research Council to work on a project which I called "Some Economic Factors in Delinquency." What I had in mind was to supplement the analyses of relationships between business cycles and cyclical fluctuations in crime with cross-sectional analyses of the differential incidence of delinquency in population groups classified in terms of various socioeconomic criteria. The project never quite got under way, partly because the statistical data that I needed were not accessible, but primarily because I did not know enough about what was essentially behavioral research to formulate realistic questions or procedures. I discussed my difficulties with Wesley Mitchell, and he advised me to ask W. I. Thomas' help in reformulating the project. Meantime, the Laura Spellman Rockefeller Memorial had commissioned W. I. Thomas to make an appraisal of the various types of standpoint and of research procedures that were being directed towards the study and control of behavior, and Beardsley Ruml, the quantitatively-predisposed director of the Memorial suggested to W. I. Thomas that he employ a statistical assistant. When, therefore, I followed Mitchell's advice and went to Thomas for guidance on my project, Thomas followed Ruml's advice and offered me, in my capacity as statistician, a job on his own project. I eagerly accepted, and out of our collaboration came *The Child in America*<sup>3</sup>—a study so inclusive in scope that it might properly have been called "The Child and Other Matters in America and Elsewhere." It involved first-hand examination and systematic critiques of practical behavioral programs, especially those developed in the community, the school, the court, and the clinic, and of the existing

<sup>2</sup> *Social Aspects of the Business Cycle*, London: Routledge, 1925.

<sup>3</sup> William I. Thomas and Dorothy Swaine Thomas, *The Child in America*, New York: Alfred A. Knopf, 1928.

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<sup>4</sup> *Ibid.*

state of psychiatric, psychological, physiological, and sociological knowledge and research procedures that were being drawn upon or that were potentially applicable to these programs.

The framework of *The Child in America* was W. I. Thomas' famous situational approach, which called for comparative studies of behavior reactions and habit formation in a great variety of situations, which defined the "total situation" as always containing more or less of the subjective and emphasized the necessity of studying behavior "in connection with the whole context, i.e., the situation as it exists in verifiable, objective terms and as it has seemed to exist in terms of the interested persons." The methodology recommended for behavioral research would involve the use of both statistics and personal documents; for example, in studies of delinquency "what is needed is continual and detailed study of case-histories and life-histories . . . along with the available statistical studies to be used as a basis for the inferences drawn. And these inferences in turn must be continually subjected to further statistical analysis as it becomes possible to transmute more factors into quantitative form. Statistics becomes, then, the continuous process of verification. As it becomes possible to transmute more and more data to a quantitative form and apply statistical methods, our inferences will become more probable and have a sounder basis. But the statistical results must always be interpreted in the configuration of the as-yet unmeasured factors, and the hypotheses emerging from the study of cases must, whenever possible, be verified statistically." In the behavior document, which represents "a continuity of experience in life situations . . . we are able to view the behavior reactions in the various situations, the emergence of personality traits, the determination of concrete acts and the formation of life policies, in their evolution. Perhaps the greatest importance of the behavior document is the opportunity it affords to observe the attitudes of other persons as behavior-forming influences, since the most important situations in the development of personality are the attitudes and values of other persons."<sup>4</sup>

It is always dangerous to try to reconstruct the separate contributions of collaborators, but I am reasonably sure that the designation of subjective, documentary materials as the "as-yet unmeasured" and the emphasis on "transmuting" more and more factors "into quantitative form" were mine and that the very positive evaluation of the behavior document *per se* was W. I. Thomas'. For when I joined the staff of the Child Development Institute at Teachers College, in 1927, I was still somewhat distrustful of the subjective and the "as-yet unmeasured" as materials for scientific investigations. I still preferred to work exclusively with the objective, defined in almost mechanistic terms, and to count, measure, sample, fit curves, correlate, test for reliability, validity and the significance of quantitative differences, rather than to utilize descriptive materials or life histories, case records, and other types of personal documents. I hoped, indeed, that the series of observational studies of social behavior which I directed there and continued during the 1930's at the Yale Institute of Human Relations might yield "data as objective as the best of those with which the statistical economists" were dealing. And although I gave verbal recognition to the value of case histories, diary records, and what I called "merely descriptive" accounts of behavior as "hypothesis-forming material for further studies" I made slight use of these materials, on the ground that they "obviously [would] not yield data appropriate for statistical analysis."<sup>5</sup> My associates and I experimented with techniques for recording overt behavior on a time-sampling basis, with particular emphasis on observer reliability, and analyzed the masses of data that we accumulated in methodological terms, with little regard for substance.

While I was still at Teachers College, W. I. Thomas revived a dormant plan to make a study of Swedish emigration and of Swedish immigrants in America, which he hoped would parallel and supplement *The Polish Peasant*. He was thoroughly familiar with the 20-volume work on emigration and

<sup>5</sup> Dorothy Swaine Thomas and Associates, *Some New Techniques for Studying Social Behavior*, New York: Teachers College, Columbia University, 1929, pp. 19-20, *passim*.

<sup>4</sup> *Ibid.*, pp. 571-572, *passim*.

"related topics" which Gustav Sundbärg and his associates had prepared for the Swedish Emigration Commission in 1908-1912, and he called my attention to the superiority of these sources and the relevance of the data for studies in social demography.

In 1930 we met Gunnar and Alva Myrdal, and at their invitation visited Sweden and came into contact with Olof Kinberg, psychiatrist and criminologist, with Karl Arvid Edin, who had worked with Sundbärg and was then carrying on pathfinding studies of differential fertility, and with Gösta Bagge and a group of young economists at Stockholm University who were making extensive historical and statistical studies of wages, national income, the cost of living, and internal migration. Together with these Swedish social scientists, W. I. Thomas and I drew up a plan for a major research project on "Behavior and Social Structure" which would have combined our several approaches. We could not get this comprehensive project financed and we gave up the idea of paralleling *The Polish Peasant*, but W. I. Thomas collaborated with Kinberg in his explorations of the behavioral documents available at the Criminological Institute, and when I left Teachers College for Yale, it was with the understanding that I could devote part of my time to population studies in Sweden. During the nine years of my association with the Yale Institute of Human Relations, therefore, I spent part of almost every year in Sweden, where I found the setting, the data, and the personnel admirably suited to interdisciplinary analyses of the relationships between economic development and socio-demographic change. Drawing on Sundbärg's pioneering investigations, working in collaboration with Myrdal and Edin, and exploiting the basic population registers for hitherto unavailable data on internal migration, I was able to carry many of the analyses backward in time to 1750 and thus to observe the patterns of interrelationships for a whole century preceding the Industrial Revolution, and during the period of rapid industrialization that began in Sweden in the 1860's to evaluate structural, cross-sectional, and secular, as well as cyclical factors, in change. In the light of all the available evidence, it became apparent that neither the demographic determinism of most economists (in which

population is viewed as the independent variable and economic development as the dependent), nor the economic determinism which had characterized my approach to *Social Aspects of the Business Cycle*, were adequate explanations of observed interrelationships; that there was a continuous chain of interdependence among demographic variables, none of which, in the long run, "can be considered a completely independent variable," but each of which might in the short run "show an immediate effect (i.e., become a dependent variable) or act as an immediate cause (i.e., become an independent variable)" and that "the economic structure and way of life of the people continually modify and are modified by the chain of demographic events."<sup>6</sup>

The Swedish project was orderly and well coordinated, for it drew upon a vast fund of accumulated data, reexamined problems that had been previously explored in other areas, proceeded along lines that had been well-defined by investigators from several disciplines, and represented a continuity in my own research experience. My next project—a study of the Japanese American evacuation and resettlement was also interdisciplinary, but in contrast to the Swedish study, it extended far beyond the range of my experience, could draw upon no systematically accumulated fund of knowledge, and found few realistic "models" or adequate techniques by which to guide procedures or check conclusions.

I had joined the faculty of the University of California in 1940, and was working on some minor projects in the population field at the outbreak of war. The first plans for a study of evacuation and resettlement were drawn up by Charles Aikin of the Political Science Department and myself early in February 1942, after the Department of Justice had designated a number of small zones, surrounding strategic installations, as areas from which alien enemies were to be evacuated by February 24. The movement would encompass no more than 10,000 aliens (German, Italian, and Japanese) but it was anticipated that these aliens would be accompanied, in many instances, by citi-

<sup>6</sup> *Social and Economic Aspects of Swedish Population Movements 1750-1933*, New York: The Macmillan Company, 1941, p. 3 and p. 351.

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zen members of their families. In any case, the number of persons involved would not be large, and correspondingly it was expected that the range of movement would be relatively slight. Aikin and I therefore applied for a small grant to make a modest study of the development and application of evacuation policies and of their impact on the population groups directly concerned. We were never able to make this modest study, for the simple reason that the officially-announced plan for a small-scale limited-range evacuation was superseded by plans, developed piecemeal during the spring and summer, for a large-scale forced mass migration from a very extensive area. We had continually to reformulate our projected research and to try to adjust our budget and personnel, to meet such radical changes in the evacuation and resettlement program as the following: suspension of the plan for evacuating any Germans or Italians and extension of the plan for evacuating Japanese to include not only "enemy aliens" but all persons who had a Japanese ancestor "regardless of degree"<sup>7</sup> and irrespective of birthplace or citizenship; expansion of the exclusion zone to the whole of California and to the main areas of settlement in Washington, Oregon and Arizona; abandonment of a short-lived plan for voluntary evacuation in favor of one for controlled evacuation, in which the evacuees were moved under military supervision to barbed-wire enclosed camps; the functional reorganization of these camps from "reception centers" for the protective custody of displaced people to "assembly centers" for temporary but enforced detention; and the movement of the assembly center population en masse to larger and more remote camps called "relocation projects," but, like assembly centers, surrounded by barbed wire, designated as military zones, and organized for detention purposes. In 1943, following an attempt on the part of the administration to assess the loyalty of the detained evacuees, by questionnaire and registration, the program was again precipitously and radically changed. Evacuees who refused to

answer the questionnaire or who gave qualified affirmations of allegiance were, along with their dependents and other family members who wished to accompany them, moved to a segregation center for the "disloyal," and the relocation projects then began to function as dispersion centers, from which resettlement to the middle west and east was promoted. At the end of 1945 the exclusion orders were rescinded and within a year all camps were liquidated. The number of persons involved in voluntary evacuation was approximately 10,000; in the initial phases of detention 110,000; in segregation, 18,000; in voluntary resettlement in the middle west and east prior to rescision of the exclusion orders, 36,000; and in the return movement to the West Coast or resettlement in other areas during the period of camp liquidation, 62,000.

As the problems for research multiplied and increased in complexity, members of the faculties of Economics, Anthropology, and Social Welfare were added to the senior staff, and plans for a broad interdisciplinary approach were developed. But as explained in the first volume of the *Evacuation and Resettlement Study* published in 1946, "this ambitious conceptualization was never realized to the full," partly because all of the senior staff members except me were drawn into work with war agencies, partly because we could not use standard techniques to get the data implied in the "conceptualization," but mainly because "the course of events which were to be investigated could not be anticipated." We lamented that we could not sample "either on a time or population basis" or conduct opinion and attitude surveys or use questionnaires. In fact, our evacuee assistants could not, at times, even take notes in public, use typewriters in their barracks, or ask direct questions, from fear of being considered "informers."<sup>8</sup> In this extraordinarily dynamic study, we had to be constantly on the alert to get as complete a record as possible of the changing situations to which the evacuees were exposed and of concomitant changes in their behavior and attitudes. In part we used the so-called "vacuum cleaner approach," and

<sup>7</sup> As described officially by the Western Defense Command. (U. S. Army, Western Defense Command and Fourth Army, *Final Report: Japanese Evacuation from the West Coast, 1942*, Washington, 1943, p. 514.)

<sup>8</sup> Dorothy Swaine Thomas and Richard S. Nishimoto, *The Spoilage*, Berkeley and Los Angeles: University of California Press, 1946, p. ix.

became avid collectors of documents and of statistics, including administrative instructions, camp newspapers, minutes of meetings, school and employment records, results of votes and referenda, petitions to the administration, letters of complaint and correspondence of all sorts, the basic demographic, social, and economic data included in a complete census taken by the War Relocation Authority while the evacuees were being "processed"—the records of intercamp transfers, data from the questionnaire submitted in connection with the "loyalty" inquiry, segregation lists, lists of those who renounced citizenship, vital statistics, transcripts of "leave clearance" permits and so on. This approach, undirected as it was and wasteful as it seemed at the time, paid off in the long run, for when the camps were liquidated, many of the records in the administrative files were either destroyed or buried in archives.

Data on behavior and attitudes were collected both by evacuee members of our research staff, and by other field workers who, with official approval, lived in the quarters assigned to administrative personnel. Among the evacuees who worked on the study, and whose participation in the situations they were observing was a matter over which they could exercise little control, were persons of diverse background and training, including sociologists, an anthropologist, an engineer, an agricultural economist, a psychologist, a social worker, and a journalist, while the nonevacuee field workers included two anthropologists and a historian. Each of them prepared many reports on special topics, which followed outlines developed in terms of our ever-changing "interdisciplinary conceptualization," but more important were the undirected journals kept by most of the participant observers and field workers. These journals included running accounts of "current events," information obtained from wide circles of "participating informants" (both evacuees and administrative personnel), and accounts of the actions and conversations of many persons who did not know either that the study was being made or that they were under observation. Each journal-keeper also recorded the course of his own experiences and his attitudes towards these experiences with the maximum possible

frankness, and appended all documentary material that he could collect. Each brought to his journal something of the standpoint of his own discipline and his own biases, in the very process of selecting events, words, and acts to record. And as the anthropologist Tsuchiyama remarked, whatever his background, each observer and field worker soon found himself functioning more as a "foreign correspondent" than as a social scientist, for good reporting was essential in a study where the "preconceptualized" lines of inquiry were often vague and inadequate. These day-by-day on-the-spot records were a principal and essential source for retrospective analyses. That their extensiveness and detail may be unique in the annals of social science is suggested by the fact that the journal kept by a single participant observer (Charles Kikuchi) covers more than 10,000 typed pages.

After resettlement got under way, in 1943, several of the junior staff members left camp and moved to Chicago, where they again functioned as participant observers in the area which during the next two years absorbed well over half of the total number of resettlers. In the freer conditions of the "outside world," they were able to utilize techniques that had been impossible to develop adequately in the camps, and although they continued to keep journals, they now were able to get a far greater range of experiential records through planned interviews and the preparation of life histories.

The collection of primary data for this study was brought to an end in 1945, and the first volume—essentially a record and interpretation of intercamp tensions and crises—was published in 1946.<sup>9</sup> Then came a "horse-after-the-cart" procedure of examining, collating, and synthesizing all available historical and statistical data, from secondary sources, to provide a socio-demographic frame of reference for the observational and life-history material. This required five more years of hard labor by several of us,<sup>10</sup> and it is to be hoped that this added time gave us the perspective that

<sup>9</sup> *Ibid.*

<sup>10</sup> Dorothy Swaine Thomas with the assistance of Charles Kikuchi and James M. Sakoda, *The Salvage*, Berkeley and Los Angeles: University of California Press, 1952.

the historians told us was necessary for the proper "placing" of contemporaneous events.

When I came to the University of Pennsylvania in 1948 and was, for the first time in my career, associated with a Department of Sociology, I had become so thoroughly conditioned to interdisciplinary research that I soon found myself involved in two new interdisciplinary projects: (1) a study of technological change and social adjustment, as exemplified by the experience of the past fifty years of the people of Norristown, Pennsylvania. Here Thomas C. Cochran, the economic historian and I are trying to build up the record of technological, material, and demographic change, by collating data from surveys and interviews with those available in secondary sources, and, in collaboration with persons from several of the behavioral disciplines, we are exploring the possibilities of developing indices of adjustment; (2) a frontal attack, in collaboration with the economist Simon S. Kuznets, on the shift and redistribution of population and economic resources in space in the process of this country's development since the 1870's. Here we hope that by observing the various migrations and redistributions that have occurred in combination with changes in industrial structure, and finding out who moves, when and under what circumstances, we will get closer to the "whys" of economic growth on the one hand, and the "whys" of demographic change, on the other.

As to possible implications of these experiences in interdisciplinary research—or what I have learned in the course of three decades that will, hopefully, serve as guideposts as I enter the fourth:

- (1) I have not found it profitable to separate economics from the strictly behavioral disciplines—partly, of course, because of the types of problems on which I have worked but also because it does not seem feasible in behavior-situation studies to neglect the realities of economic structure, economic differentials, and economic development.
- (2) I have not found it profitable to approach interdisciplinary research by trying to merge disciplines at the "conceptual" level. It is the data of economics rather than the elaborate systems of the economic theorists that have provided a basis for practicable procedures.
- (3) On the behavioral side, I have not found it profitable to proceed as if all behavior must be or even can be "transmuted" into quantitative terms. And whereas I still push the statistical aspect of all studies to the limit, I no longer relegate the subjective and the descriptive to secondary positions.
- (4) I have belatedly recognized that we are all theorists and all statisticians, and that, on the one hand, underlying theory must be made as explicit as possible, and on the other, the implications of hidden statistical generalizations must be squarely faced.
- (5) I have found it profitable to take occasional and sometimes quite lengthy "disciplinary" leaves of absence from interdisciplinary research, to fill in gaps in training and technique.
- (6) Contrary to the attitudes now being expressed by numbers of my colleagues, I have found interdisciplinary research a rewarding and integrating rather than a "traumatic" experience.

## PATTERNS OF AMERICAN STRATIFICATION AS REFLECTED IN SELECTED SOCIAL SCIENCE LITERATURE \*

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THIS paper has both a methodological and a substantive aim. The first of these is to illustrate an application of William Stephenson's Q-methodology to a type of problem commonly encountered in sociological theory.<sup>1</sup> The second purpose is to examine some of the major American writings on stratification in this country published since World War I.<sup>2</sup>

These two purposes, while interrelated, are also independent. That is, if the theory selected for testing is trivial, uninteresting or confused, the outcome will be of little utility. Furthermore, even though the theory be an interesting and useful one, if it is not sensibly applied, the findings would also be unclear. Regardless, then, of the particular substantive outcome of this analysis, it is believed that the Q-methodology is a potentially powerful tool for sociological research.

### THE PROBLEM

Aside from its methodological implications, the problem of this paper is to analyze the different ways in which social scientists have perceived American stratification during the time following World War I. Such a task sets difficult problems of definition and analysis. Because the method itself is also of interest, decisions which were dictated by both considerations had to be made and the arbitrary character of these has greatly reduced the theoretic importance of the findings.

\* The writers wish to acknowledge their gratitude to the Graduate School of Northwestern University for a grant which made this research possible, and also to thank Nellie Louise Farr for her valuable assistance.

<sup>1</sup> This is the first of a projected series of three applications of Q in diverse areas of sociological theory.

<sup>2</sup> This is a revision of Paper No. 3, presented to the American Council of Learned Societies' Conference on Changes in Systems of Belief in the United States since World War I, Washington, D. C., April, 1952.

A. *Selecting the Materials.* Since it is patently impossible to discuss the entire post-World War I stratification literature in a paper of this length, it is necessary to make explicit our canons for the inclusion and exclusion of material. Three criteria were selected initially, and others dictated by the method were added as the study progressed.

The first of the three was the inclusion of only those writers who may properly be classified as social scientists. This has the effect of excluding pamphleteers and social actionists of all political persuasions but most especially, perhaps, those of the extreme left and extreme right. None of the findings in this paper therefore can properly be construed as fully representing "currents of American thought" since the extreme positions are automatically under-represented or even eliminated.

The second criterion was the exclusion of all such general theoretical problems as "What is class?", "What are the sources of stratification?", "What indices of class are most valid?", and similar questions. Conversely, only those writings which stated specifically that they were offering empirical evidence concerning stratification were included. The effect of this is to exclude almost all of the periodical literature of the period which, though it constitutes a major segment of the thinking about stratification, is almost entirely programmatic and theoretical rather than empirical. It also excludes such monographic works as those dealing with the origins of classes and with the place of stratification in social theory. To put the matter positively, this paper is concerned only with interpretations of empirical findings concerning the actual stratification system in the United States.

The third criterion was the exclusion of all but interpretations of the United States, written by Americans. The effect of this, of course, was to exclude other segments of literature important to the student of

stratification but not of relevance to the immediate problem.

Applying these rules of selection narrowed the universe to a considerable degree and it was possible to select only twenty authors who not only fit the requirements but to whom it was possible to impute a reasonably complete view of American stratification.<sup>3</sup>

<sup>3</sup> The twenty follow:

- H. A. Miller, *Races, Nations and Classes*, J. B. Lippincott Co., Philadelphia, 1924.  
 C. C. North, *Social Differentiation*, The University of North Carolina Press, Chapel Hill, 1926.  
 C. A. and M. R. Beard, *The Rise of American Civilization*, Vol. II, The Macmillan Co., New York, 1927; and C. A. Beard, *The Economic Basis of Politics*, Knopf, New York, 1923.  
 P. A. Sorokin, *Social Mobility*, Harper & Brothers, New York, 1927.  
 F. W. Taussig and C. S. Joslyn, *American Business Leaders*, The Macmillan Co., New York, 1932.  
 A. A. Berle, Jr. and G. C. Means, *The Modern Corporation and Private Property*, Macmillan, New York, 1933.  
 Lewis Corey, *The Decline of American Capitalism*, Covici-Friede, New York, 1934; and *The Crisis of the Middle Class*, same publisher, 1935.  
 P. E. Davidson and H. D. Anderson, *Occupational Mobility in an American Community*, Stanford University Press, 1937; and *Ballots and the Democratic Class Struggle*, same publisher, 1943.  
 John Dollard, *Caste and Class in a Southern Town*, Harper & Brothers, New York, 1937.  
 Ferdinand Lundberg, *America's 60 Families*, The Vanguard Press, New York, 1937.  
 R. S. and H. M. Lynd, *Middletown in Transition*, Harcourt Brace and Co., 1937; and R. S. Lynd, *Knowledge for What?*, Princeton University Press, 1940.  
 T. W. Arnold, *The Folklore of American Capitalism*, Yale University Press, New Haven, 1938.  
 James Burnham, *The Managerial Revolution*, The John Day Co., New York, 1941.  
 A. W. Jones, *Life, Liberty and Property*, J. B. Lippincott Co., Philadelphia, 1941.  
 H. A. Myers, *Are Men Equal?*, Putnam, New York, 1945.  
 C. W. Mills, *The New Men of Power*, Harcourt Brace, New York, 1948; and *White Collar*, Oxford University Press, New York, 1951.  
 Richard Centers, *The Psychology of Social Classes*, Princeton University Press, 1949.  
 A. B. Hollingshead, *Elmtown's Youth*, John Wiley and Sons, New York, 1949.  
 W. L. Warner, *Democracy in Jonesville*, Harper and Brothers, 1949; and *Social Class*

The reader will notice that the criteria could not all have been simultaneously and stringently applied in several of the authors selected. In our judgment, however, it was necessary to stretch a point here and there to secure even this number of works to represent the period. It will be noticed that some of the writers do not represent any particular social science discipline and could best perhaps be simply described as social scientists, and that some of the works are not specifically on stratification.

Further reduction of the number of men working in this field was required in order to apply the particular technique which was selected. The largest number which is permitted by the method of factor analysis chosen was twelve. The selection of these twelve from the original twenty was determined by the desire to represent as well as possible the several social sciences, the full time period from 1920, and the different approaches to social class which were found in the longer list. On these bases, then, the following were chosen: H. A. Miller, C. C. North, C. A. Beard, F. W. Taussig and C. S. Joslyn, P. E. Davidson and H. D. Anderson, Ferdinand Lundberg, R. S. Lynd, Lewis Corey, P. F. Drucker, Richard Centers, C. W. Mills, and W. L. Warner.

Whatever may be said of this selection with respect to representativeness, it constitutes our best judgment of full coverage with respect to time, discipline and viewpoint. The list includes representatives of general social science, anthropology, economics, history, psychology and sociology, at the same time having four men roughly in each of the decades since 1920 and providing a considerable range of perceptions of American stratification.

**B. Formulating the Question.** In general terms the problem was to formulate a theory which would provide information about major currents of thinking with reference to American stratification, and which could use fewer terms than the twelve authors with which the investigation began.

One such theory, for example, might have been that a considerable part of the variation among the authors might be due to

in America, Science Research Associates, Inc., Chicago, 1949.

P. F. Drucker, *The New Society*, Harper and Brothers, New York, 1949.

the historical conditions within which each man wrote. Thus it could be suggested that the twenties would reflect the optimism of "two cars in every garage and two chickens in every pot," whereas the thirties, typified by "depression" and "recession," would reflect elements of pessimism and conflict. The forties, on the other hand, being a period of war, both hot and cold, with attendant full employment, should reflect still other descriptions. Indeed it would be somewhat strange if this were not so, since the differences, in fact, among these decades were so great. Nevertheless this approach was rejected as less useful than some other possibilities. Were the empirical situation the only relevant factor, it might well have been the best theory; but it seemed clear that the theoretical approaches were perhaps more important in determining perception than were the objective external factors, and that these basic theoretic predispositions were by no means uniformly affected by the violent but short-term swings represented by these three decades.

The theory which was selected for testing was of a different order and represents substantially the approach to stratification taken by P. A. Sorokin.<sup>4</sup> Thus it was assumed that critical differences between interpretations of the American scene would revolve around major differences in three aspects of stratification. The first of these is the way in which the structure itself is perceived and the direction in which it is moving. The criterion here is whether, on the one hand, great distances between the classes are perceived, or on the other, a relatively equalitarian structure is seen. The second refers to whether a writer sees individual mobility as relatively frequent or relatively infrequent. The third element of the theory is whether the interpreter utilizes economic factors as the dominant basis of stratification or whether he emphasizes other factors.

In short, this is an attempt to test the usefulness of the hypothesis that if a writer's view of the degree of egalitarianism, equality of opportunity, and economic determinism is known, that it will be possible to place him usefully and significantly in some one category of thought in stratification theory.

<sup>4</sup> *Op. cit.*

C. *The Technique.* The technique utilized in this paper is an application in a new area, of what is called Q-methodology.<sup>5</sup> It is not the purpose to explain the technique fully here, but the steps followed must be presented so that the logic of the operation can be seen. In essence, this procedure allows the analyst to make a series of small judgments about his materials and then to reach broader generalizations through the application of variance analysis and factor analysis. It must be emphasized that simply because these are quantitative operations *the authors do not claim that they thus secure any greater degree of objectivity.* Everything which goes into the operation represents merely the judgments of the senior author and nothing done subsequently can change that fact. The operations themselves simply represent a powerful logical tool for the manipulation of those judgments.

*Step One.* This involves putting the three elements of the theory discussed above into a form which will allow for the construction of a confounded experimental design. Thus the three elements—the height of stratification, the degree of mobility, and the importance of economic determinants—are considered as the "main effects" of the design.

It is further required that each of these main effects has subcategories, or levels, and a dichotomy was decided upon for each. These subcategories represent simply high and low on each of the three main effects. Since the theory requires that all three main effects be considered simultaneously, eight possible types of interpretations of American stratification emerge. With a plus sign representing "high" and a minus sign representing "low," these categories are as follows:

*Step Two.* Each of the possible types of descriptions of the stratification system had to be put into such a form that it could be related sensibly to each of the men selected to represent collectively social science writing in this area and this epoch. This was done by making up a series of statements representing the point of view of

<sup>5</sup> Lee J. Cronbach, "Correlations Between Persons as a Research Tool," unpublished modification of a paper delivered at Washington University, March 10, 1951. See also William Stephenson, *Introduction to Q-Technique*, unpublished manuscript.

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TABLE 1. TYPES OF PERCEPTION OF AMERICAN STRATIFICATION

Main Effects	Types							
	1	2	3	4	5	6	7	8
1. Degree of stratification	/	/	/	/	-	-	-	-
2. Amount of individual mobility	/	/	-	-	-	/	-	/
3. Emphasis on economic factors	/	-	/	-	-	-	/	/

each possible type. Illustrative statements follow:

Category	Statement
1.	Our ever-increasing economic productivity provides growing class distinctions but offers unparalleled opportunities for mobility.
2.	In the American community social classes are becoming more distinct but changing criteria provide a compensating mobility.
3.	Economic power is becoming more and more centralized and opportunities of securing wealth for the middle and lower classes smaller thus giving American class structure a highly pointed pyramidal shape.
4.	The growth of our "mass society" has made such values as family and "breeding" more important than ever in determining class position. It thus also helps to freeze mobility.
5.	Class differences are decreasing due to the dissemination of middle class values but movement between the classes is becoming more restricted.
6.	Because a person's community reputation has become the basis for his class position, class differences are decreasing, and there is widespread mobility.
7.	The importance of money as a criterion of social class has removed many older class distinctions but it does not make it easier for a man to rise from one class to another.
8.	The increased difficulty of accumulating large savings has spread opportunity widely and resulted in a smaller gap between upper and lower classes.

Ten such statements were constructed for each of the types, making a total of eighty in all. The reason for putting ten statements in each category is to provide an estimate of

error and each statement is considered a replication for this purpose.

*Step Three.* This involved scoring each author on each statement. Each statement was typed on a card and these were then thoroughly shuffled. The next step was to sort them into nine piles so that on one end lay the statements most like the author's opinions, and at the other those statements most unlike his opinions. Statements which were neither like nor unlike were placed in the center.<sup>6</sup>

This procedure thus provided each of the twelve authors with ten scores on each of the eight possible types of approach to American stratification as he saw it. These scores provide the material for the subsequent analysis of the original theory.<sup>7</sup>

## THE ANALYSIS

The first step was to apply an analysis of variance to the scores arrived at in the manner described above. The categories employed in the analysis of variance were (a) the three decades from 1920 to 1950, (b)

<sup>6</sup> The scores were assigned in such a way as to provide a quasi normal distribution. Thus for each author the cards were sorted as follows:

	Most Unlike				Neither	Most Like			
Score	0	1	2	3	4	5	6	7	8
Frequency	4	6	10	12	16	12	10	6	4

<sup>7</sup> It should be noted that the statements were prepared and the scores assigned by the senior author working alone. Thus the data are the judgments of only one person and the substantive findings stand or fall on the correctness of these judgments. For the purposes of this paper, then, the question of reliability is not relevant. There is no reason, however, why ordinary methods of securing reliability measures could not be applied.

the authors, and (c) the replications. Table 2 presents the findings of this analysis.

A. *Was the Assignment of Scores Consistent within Categories?* Analysis of variance provided an affirmative answer here. None of the differences within types of approach, within authors, reached a statistically significant level when compared with the differences between authors and types. That is, the differences in scores for the ten replications within each category and for each author can be thought of as minimal.

#### D. *Could Any Time Factor Be Isolated?*

This refers to the alternative theory of the explanation of variation in interpretations of American stratification mentioned earlier. For this purpose the analysis of variance was performed between the three groups of four authors each, representing roughly the twenties, thirties and forties. In this case the answer was negative, showing no consistent differences between the decades. That is, the differences among the authors of each time period are as great as those between

TABLE 2. THE ANALYSIS OF VARIANCE

Source of Variation	Sum of Squares	d. f.	Mean Square	F <sup>a</sup>
Total	4,080.00	959		
Types of Perception	356.68	7	50.95	25.99 <sup>b</sup>
Authors	0.00	11	0.00	0.00
Between Decades	0.00	2	0.00	0.00
Within Decades	0.00	9	0.00	0.00
Types of Perception X Authors	2,032.32	77	26.39	13.46 <sup>b</sup>
Decades X Types of Perception	430.92	14	30.78	15.70 <sup>b</sup>
Authors Within Decades Within Types of Perception	1,601.40	63	25.42	12.97 <sup>b</sup>
Replications (individual statements)	1,691.00	864	1.96	

<sup>a</sup>Replication is used as the measure of error.

<sup>b</sup>Indicates the .01 level of significance.

B. *Were the Scores between the Types of Perception Different?* That is, can we be sure that each type really represents a different point of view? The answer is again affirmative since the analysis of variance showed the average score for the several categories to vary significantly from the mean of the entire series of eighty statements.<sup>8</sup>

C. *Did the Authors Differ Significantly?* In other words, were the authors and categories so selected that there was more difference than similarity among the authors when all categories are considered simultaneously. The analysis of variance once more provides an affirmative answer.<sup>9</sup>

<sup>8</sup> This reached the .01 level.

<sup>9</sup> This reached the .01 level.

these groupings of authors. This, in a measure, would seem to support the earlier decision not to select the time factor as a particularly useful theory to explain variation in the treatment of social class.

E. *What Statements Can Be Made About the Variation in the Interpretation of Statements About American Stratification?* This represents the core of the analysis in the sense that it requires the utility of the original theory to be demonstrated. It might be well to repeat here that the theory can be considered useful only if it permits the explanation of the variation among the twelve authors in considerably fewer than twelve factors. In other words, the task is to find principles which will explain the differences among these writers, rather than

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TABLE 3. INTERCORRELATIONS OF TWELVE SELECTED AUTHORS ON THE EIGHTY STATEMENTS

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1.	.736											
2.	.127	.647										
3.	-.044	.715	.758									
4.	-.041	.677	.709	.672								
5.	-.238	.694	.767	.697	.776							
6.	.756	-.015	-.106	-.162	-.335	.746						
7.	.753	.038	-.121	-.115	-.315	.774	.803					
8.	.756	.009	-.126	-.074	-.368	.777	.806	.809				
9.	-.238	.556	.738	.700	.747	-.332	-.359	-.374	.719			
10.	.082	.171	.115	.112	.294	-.291	-.224	-.159	.000	.367		
11.	.691	.315	.085	.212	-.038	.476	.621	.541	.009	-.124	.570	
12.	.032	-.223	-.412	.379	-.238	.270	.150	.241	-.438	.297	-.206	.244

having to consider each as a unique phenomenon.

A common statistical method for reducing the number of variables in a problem is some form of factor analysis. In this particular instance the method employed was that of Hotelling as presented by Holzinger and Harman.<sup>10</sup>

Here a word should be said about the correlations employed. The correlations are computed between the authors, using each writer's score on all of the original statements. This provides an N of 80 for each correlation. A word of caution concerning any interpretation of these coefficients must be given. The values merely state a degree of similarity and dissimilarity. At this point they *do not* indicate in any sense the way

in which two authors may be similar or dissimilar and no conclusions concerning this can be drawn from the correlation coefficient.

The factor analysis of this matrix provides an indication that there are two principal components which taken together account for approximately ninety-five per cent of the variation among the twelve authors. These two factors, identified in Table 4, then, constitute the test of our original theory.

A rotation of this matrix provided a new set of values as shown in Table 5.<sup>11</sup>

*Factor One.* It can be seen in Table 5 that the two factors account for about ninety-eight per cent of the estimated com-

<sup>10</sup> K. J. Holzinger and H. H. Harman, *Factor Analysis*, University of Chicago Press, Chicago, 1941. The model for computation is found in Appendix D.

TABLE 4. AUTHOR LOADINGS ON THE TWO PRINCIPAL COMPONENTS

Author	Component		Communality
	I	II	
Anderson and Davidson	.797	.406	.800
Drucker	.763	.380	.726
Beard	.646	.593	.769
Taussig and Joslyn	.595	.578	.688
North	.468	.665	.661
Centers	.329	.667	.552
Mills	-.327	.667	.552
Warner	-.355	.620	.760
Miller	-.613	.550	.809
Lynd	-.712	.487	.748
Lundberg	-.715	.519	.792
Corey	-.723		
Sum of squares	4.410	3.133	7.727

TABLE 5. AUTHOR LOADINGS ON THE ROTATED FACTORS

Author	Component		Communality
	I	II	
Anderson and Davidson	-.410	.848	.887
Drucker	-.397	.805	.806
Beard	-.178	.876	.799
Taussig and Joslyn	-.145	.829	.708
North	.009	.802	.643
Centers	-.225	.112	.063
Mills	.655	.247	.490
Warner	.152	-.414	.195
Miller	.859	.014	.738
Lynd	.899	-.106	.819
Lundberg	.864	-.153	.770
Corey	.889	-.136	.809
Sum of squares	3.963	3.762	7.727
Total estimated communality in correlation matrix is 7.847.			

munality in the original correlation matrix. It is also clear that the first factor is defined by high positive correlations with Miller, Lynd, Lundberg and Corey; a rather lower positive correlation with Mills; and still lower but negative correlations with Anderson and Davidson, Centers and Drucker.

To interpret factor one in terms of the main effects of the original theory requires the use of the average scores of each author on the types of perception presented in Table 1. These are shown in Table 8. Before considering these, however, it is possible to interpret the factors without regard to the identity of the individual authors. The first step in this procedure was to select the four authors showing the highest correlations with factor one and compare them with the remaining eight authors on each of the types of perception. Table 6 shows the results of this procedure.

TABLE 6. MEAN SCORES OF THE GROUPS OF WRITERS SHOWING HIGH POSITIVE CORRELATIONS WITH FACTORS I AND II ON EACH OF THE MAIN EFFECTS

Types of Perception (from Table 1)	Factor I	Factor II
1.	(-) 4.55	6.82 <sup>c</sup>
2.	(-) 3.00 <sup>a</sup>	4.58 <sup>b</sup>
3.	7.30 <sup>c</sup>	(-) 2.66 <sup>b</sup>
4.	4.33	(-) 1.82 <sup>c</sup>
5.	3.90 <sup>c</sup>	(-) 2.78 <sup>c</sup>
6.	(-) 1.78 <sup>c</sup>	4.44 <sup>a</sup>
7.	5.00	(-) 3.50 <sup>b</sup>
8.	(-) 2.15 <sup>c</sup>	5.40 <sup>c</sup>

a .05 When compared with all writers showing low or negative correlations with the factor. A negative sign indicates that the mean of the correlated group is lower than the mean of those not correlated.

To interpret Table 6, however, it is not only necessary to note that a significant difference exists, but also to consider the actual mean score for the group. Thus it is clear that those who correlate highly with factor one differ significantly from those who do not, with respect to five of the eight types of perception. However, the mean values on types 2 and 5, which are 3.00 and 3.90 respectively, are not clearly either like or unlike the combinations they represent. Thus it is possible to say that the first factor is like type 3 (mean score 7.30) and unlike types 6 (mean score 1.78) and 8 (mean score 2.15).

Table 7 shows the scores of all individuals who scored an average of six or more on each of the relevant perception types. Six was arbitrarily selected as being definitely like the combination in question. Thus it can be seen that the first factor is positively defined by type 3 and negatively by types 6 and 8. Reference to Table 1 shows that this is primarily a contrast between the main effects of (a) height of the stratification pyramid and (b) the amount of mobility. Thus those who are positively correlated with this factor perceive American stratification to be highly invidious and growing more so, coupled with a low and decreasing degree of mobility. Those negatively related consider the structure to be relatively undifferentiated, growing more egalitarian, and characterized by frequent opportunities for upward mobility.

The question of whether the stratification system is economically based or not seems unimportant for those who are low on this factor but for those who are high it is clearly of significance, since type 4 does not also correlate with this position. It therefore can be suggested that this may represent a sort of "left-wing" perception with its opposition based upon the belief that ours is already an egalitarian and open society.<sup>12</sup>

*Factor Two.* The procedure for identifying factor two is the same as that for factor one. Table 6 shows it to be positively related to type 1 and negatively related to type 4. Reference to Table 1 indicates, therefore, that since both share a perception of a high degree of stratification, the difference between lows and highs on this factor is that the "highs" perceive high mobility and economic determination whereas the "lows" perceive little mobility and a non-economic basis of stratification.

Those high on this factor resemble those high on factor one except for the fact that they appear to feel that the height of the pyramid is at least partially offset by the ease of mobility. It could be concluded from this that if the egalitarian values of the democratic ideology are accepted, those high on factor one would produce a strongly

<sup>12</sup> It should be noted again that this does not say anything about what any author *advocates*, or any value position he may take, but merely relates to the way he perceives the structure to be.

protesting literature. Those high on factor two, however, seem to be less critical of the present structure so long as mobility remains high. Thus it may be inferred that if the first factor represents a perception congenial to doctrines of left-wing criticism, factor two includes a perception which could embrace both those who are critical of the height of stratification but who feel that the openness of the structure is an effective

remainder. Similarly, Drucker, Taussig and Joslyn, Anderson and Davidson, Beard, and North cluster as high on the second factor.

Two problems in interpretation remain. First, it is clear that the two factors have so separated the authors that each has a position on only one of the factors. Drucker is the only exception to this. He must be counted as being both low on factor one and high on factor two. We should conclude

TABLE 7. IDENTIFICATION FACTORS I AND II BY MAIN EFFECTS AND INDIVIDUAL WRITERS

Relation to Factor	Factor I		Factor II	
	Type of Perception	Mean Scores	Type of Perception	Mean Scores
Like	3.	7.4	1.	7.2
		7.4		6.9
		7.2		6.8 <sup>b</sup>
		7.2		6.7
		7.0 <sup>c</sup>		6.5
Unlike	8.	6.2 <sup>b</sup>	4.	6.9
	6.	5.8 <sup>a</sup>		

<sup>a</sup>All mean scores reaching 6 or more, with one exception, are included. One author had no mean scores of this level, and his highest value, 5.8, is also shown.

<sup>b</sup>All authors are shown only once except one who has two values exceeding 6. This case will be discussed in connection with Table 8.

<sup>c</sup>The only case in which a score of 6 or more was reached and where the author was not included on that factor for the t-tests shown in Table 6.

leveler, and those who clearly accept both the amount of stratification and the belief in the ease of mobility within it. A clearer picture can perhaps be gained by examining the place taken in this scheme by the individual authors.

*The Individual Authors.* Table 8 shows the relation of individual authors to the total analysis. Thus it can be seen at a glance that Lundberg, Lynd, Corey, Miller and Mills cluster together quite closely. Not only are they agreed on high values for type 3 but they show generally low values for types 6 and 8 and median values for the

from this that for Drucker, the main effect designated as the height of the pyramid is unimportant and that it is primarily his perception of high mobility and his acceptance of the importance of the economic basis of stratification which accounts for his position.

The second case is that of Centers. It can be seen that the values assigned him tended to center about the mean and that this results in none of the types being either markedly like or markedly unlike his value. It is suggested that this reflects an ambiguity in the interpretation of his work,

TABLE 8. THE RELATION OF AUTHORS TO THE TWO FACTORS AND THEIR MEAN SCORES ON THE SEVERAL TYPES OF PERCEPTION

	Factor I Components			Factor II Components		Not Related To Factors		
	3.	Types of Perception (from Table 1)		1.	4.	7.	5.	2.
		6.	8.					
Authors Associated With Factor I								
Lundberg	7.4	1.5	1.9	5.0	5.0	4.2	4.0	3.0
Lynd	7.4	1.4	2.5	4.2	4.1	5.4	4.0	3.0
Corey	7.2	2.0	1.8	4.5	4.3	5.3	4.0	2.9
Miller	7.2	2.2	2.4	4.5	3.9	5.1	3.6	3.1
Mills	7.0	3.4	4.2	4.5	2.3	5.6	3.0	2.0
Authors Associated With Factor II								
Centers	2.2	5.8	3.6	2.8	4.1	3.7	4.8	5.0
Drucker	2.4	4.7	6.2	6.8	2.1	2.6	2.7	4.5
Taussig and Joslyn	3.2	3.9	5.7	6.9	1.1	3.7	3.0	4.5
Anderson and Davidson	1.4	4.9	5.3	6.5	2.3	3.7	2.8	5.1
Beard	2.8	4.5	4.8	7.2	1.6	3.3	2.9	4.9
North	3.5	4.2	5.1	6.7	2.0	4.1	2.5	3.9
Warner	3.4	3.6	1.9	3.1	6.9	5.0	5.1	3.0



Positively related



Negatively related

and therefore that the theoretical scheme on which this paper is based, is inadequate to embrace his work. This is further substantiated by the fact that in Table 5 his communality explained by factors one and two is so low.

## SUMMARY

The findings of this study are perhaps of more methodological than theoretic interest.

However, the indication that there have been two dominant views of American stratification, and that both of these accept the idea that American society is highly stratified, and further agree that this is predominantly an economically determined phenomenon, is of interest. It is also of some significance that the perception of the degree of mobility is the crucial difference between these. That the completely optimistic view of

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American stratification as both open and egalitarian, appears in only one author (and somewhat ambiguously even for him) is also worthy of note.

The inadequacy of the theory is shown in two ways: first, in that the main effects, "height of stratification" and "economic basis of stratification," appeared to be ineffective to any great degree, and second, in its inability to deal satisfactorily with either Warner or Centers.

In spite of these weaknesses it is believed that the work has shown the utility of Q-methodology in testing theories which are essentially qualitative. Used in this way it

seems promising as a systematic method for extending and improving present methods of comparative content analysis. The chief defect in this application of Q lies in the fact that it tests not only the original theory but also the individual analyst's particular interpretation of the works considered as the universe of the study. Quite obviously, bias on the part of the assignment of scores and the selection of the universe operate to restrict the validity and reliability of the findings. There is nothing in the method itself, however, which would prevent applying adequate tests of the usual type for both reliability and validity.

## TRENDS IN SOCIAL STRATIFICATION: A CASE STUDY\*

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### INTRODUCTION

THE writings of American sociologists on social stratification may be divided into three categories: (1) theoretical formulations, (2) empirical research in either specific communities or the "mass society," and (3) speculations about stratification trends. There are basic differences between sociologists with respect to definitions and concepts, the criteria which determine stratification, and the amount of stratification in our society. In spite of differences, there is general agreement that American society is to a greater or lesser degree stratified. However, there is no consensus on the question of the trend of stratification in American society.

Several sociologists have asserted that American society has become more rigid in recent decades,<sup>1</sup> whereas others have claimed

it is less rigid today than a half-century ago.<sup>2</sup> Those who believe that our status structure is becoming more rigid have relied upon such factors as the closing of the frontier, the slowing down of population growth, and an assumed maturing of the economy.

Proponents of the view that American society is less stratified today than at the beginning of the twentieth century rely upon a different set of facts and processes to justify their position. Sjöberg, for example, has argued recently that two world wars and a depression, along with expanding urbanization, increasing industrialization, unionization, the New Deal and the Fair Deal, mass communication, and inflation have altered fundamentally the structure of American society.<sup>3</sup>

Goldschmidt, "Social Class in America: A Critical Review," *American Anthropologist*, 52 (October-December, 1950), pp. 483-498; William F. Ogburn and Meyer F. Nimkoff, *Sociology*, Boston: Houghton Mifflin Co., 1946, pp. 333-336; W. Lloyd Warner, Robert J. Havighurst, and Martin B. Loeb, *Who Shall Be Educated?*, New York: Harper and Brothers, 1944, pp. 45-48.

<sup>2</sup> C. Wright Mills, *White Collar: The American Middle Classes*, New York: Oxford University Press, 1951; Gideon Sjöberg, "Are Social Classes in America Becoming More Rigid?" *American Sociological Review*, 16 (December, 1951), pp. 775-783.

<sup>3</sup> Gideon Sjöberg, *op. cit.*, p. 776.

\* Paper read at the annual meeting of the Eastern Sociological Society held at Haverford College, April 5-6, 1952. Grateful acknowledgment is made hereby to the Social Science Research Council for a grant-in-aid; to the Committee on Bursary Appointments, Yale University; and the National Institute of Mental Health, United States Public Health Service for their support of various aspects of the research reported here.

<sup>1</sup> For example, see John W. Bennett and Melvin M. Tumin, *Social Life: Structure and Function*, New York: Alfred A. Knopf, 1949, p. 473; Walter

The literature provides no clear-cut answer to this controversy because data that are available for the present are impossible to gather for the past. It was therefore decided to trace the historical development of the status structure of the New Haven community, and then present data that may be indicative of trends.

#### THE NEW HAVEN STATUS STRUCTURE

The status structure of contemporary New Haven can be understood only in the light of the cultural factors that have been brought to bear upon the community in the three centuries of its history. New Haven was founded in 1638 by a little band of devout English Puritans. It remained a small rural town until well into the nineteenth century. The community began to grow rapidly in the 1840's when the railroad to Boston and New York opened up new markets and sources of raw materials. Between 1840 and 1860, its population more than doubled and the value of its industries multiplied fourfold. From the Civil War to World War I, the curves of population and industrial growth swept upward in an increasing arc decade after decade.<sup>4</sup> Since 1920 the city has not grown but the suburban towns have continued to grow, though the rate has diminished each decade. Today metropolitan New Haven is a polyglot, but well-knit, manufacturing community of some 250,000 people.<sup>5</sup>

*Ethnic Origin.* Immigration and an expanding economic base were the keys to the community's rapid growth between 1840 and 1914. In 1840, New Haven's population of 12,960 was composed mainly of the descendants of the English Puritans who had settled in the area during the Colonial epoch. Starting about 1840, refugees from the potato famines of Ireland entered the city in increasing numbers year after year. In 1849, the first political refugees arrived as an aftermath of the revolution of 1848 in

Germany. Irish and German immigration increased throughout the 1850's. During the Civil War immigration ceased, but as soon as it was over, the Irish and Germans came in greater numbers than before. In the late 1860's a number of Scandinavians settled in New Haven and West Haven. Russian and Polish Jews and Italians began to arrive in small numbers in the early 1880's. After 1890, their numbers increased yearly until the outbreak of World War I. Late in the 1890's Poles began to settle here in appreciable numbers.

The immigrants that came in the last half of the nineteenth century provided the basis, in the main, for the present population and the status structure. A careful study of the ethnic origins of the population as of 1940 revealed the following distribution: Italians, 33 per cent; Irish, 23 per cent; Russian, Polish and Austrian Jews, 16 per cent; British-Americans, 13 per cent; Germans, 6 per cent; Poles, 4 per cent; Scandinavians, 2 per cent; and Negroes, 3 per cent.<sup>6</sup> Although all of these groups have been in the community for at least a half century, they are keenly aware that their ancestors were English, Irish, Italian, Russian, German, Polish, or Negro. A symbol of this is the identification of individuals and groups as Irish-American; Italian-American, and so on. This tendency to hyphenate various nationality origins is growing in political circles where both major parties bid for the votes of individuals by appealing to nationality backgrounds. In short, ethnic origin is a prime factor in the determination of status.

*Occupational Status.* Occupational pursuit is a second salient factor in the determination of social position. From the community's founding to the present, occupation has been linked directly to status. In the colonial period this linkage was official and direct.<sup>7</sup> Since the close of the colonial era, the relationship between status and occupation has continued to be direct, but unofficial.

<sup>4</sup> For a statistical analysis of the community's growth from 1850 to 1910, see Cass Gilbert and Frederick L. Olmsted, *New Haven*, Report of the Civic Improvement Commission, New Haven, 1910.

<sup>5</sup> The following places by size are included in the community: New Haven, 164,443; West Haven, 32,010; East Haven, 12,212; Hamden, 29,715; North Haven, 9,444; and Woodbridge, 2,822. All population figures are for 1950.

<sup>6</sup> Ruby J. R. Kennedy, "Single or Triple Melting-Pot? Intermarriage Trends in New Haven, 1870-1940," *American Journal of Sociology*, 39 (January, 1944), pp. 331-339.

<sup>7</sup> M. H. Mitchell, *History of New Haven Colony*, Chicago, 1930, Vol. I, pp. 24, 32-33, 41, 91; E. E. Atwater, *The History of the City of New Haven*, New York, 1887, pp. 530-532.

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The influx of immigration in the nineteenth century gave rise to a second factor in the nexus of occupation and status. This was the tendency for particular occupations to be associated with particular ethnic groups. The association of ethnic groups with occupational positions began with the influx of Irish in the 1840's. The Irish were welcomed in the newly founded factories as "unskilled hands"; and they were hired on the railroad as laborers. When the Germans came, they proved to be an exception, in part, to the custom for immigrants to start at the bottom, because some of them were well-to-do merchants, manufacturers, and artisans who left Europe for political reasons. Refugees who brought their wealth with them soon established businesses and sent back to Germany for workmen. Thus from the beginning the Germans were divided into owning and working strata. Many of the Scandinavians who came in the late 1860's and 1870's were craftsmen. They engaged immediately in cabinet making, boatbuilding, carriage making and carpentry. The vast majority of the other immigrant groups started their American work experience in unskilled or semi-skilled jobs. As each new immigrant group entered the occupational system, the members of earlier ones, who had adjusted successfully to the new society, moved up a notch. Thus different ethnic groups, and individual members of ethnic groups, occupied different positions in the economic system when large scale immigration was stopped by World War I.

This point has been demonstrated by the detailed studies of assimilation and stratification in New Haven that McConnell and Myers have made in the past fifteen years. McConnell in 1936 studied the relationship of ethnic origin to economic stratification.<sup>8</sup> He analyzed the nationality backgrounds and occupations of 1,633 heads of households selected at random in the community. He found that approximately two-thirds of the British-American heads of households were in non-manual occupational pursuits, and exactly two-thirds of the Italians and Poles were in manual occupations. What was more striking was his finding that 64 per cent of

the professionals and business executives were British-Americans, and less than 4 per cent of these groups were individuals of Italian or Polish origin. The Irish were concentrated in public service jobs and white-collar clerical work. The Russian Jews showed a marked tendency to be retail proprietors. The Germans spread from the highest executive positions to the skilled crafts, with very few in the semi-skilled and unskilled categories.

Myers in 1948 made an exhaustive study of the assimilation of Italians in the community.<sup>9</sup> His findings support those of McConnell. In brief, Myers found that a very small percentage of Italians are moving into the highest occupations; the vast majority are still manual workers. These studies reveal that the differences in the time each ethnic group has been in the community, coupled with the way it was regarded by the "Old Yankee" elite, set the stage for the current system of stratification.

*The Yankee Core Group.* The "Old Yankees", although a small percentage of the population by 1900, looked upon the community as a structure they had fashioned out of a wilderness through their own relentless efforts. This proud, uncompromising minority looked down upon the immigrant groups. Few "Yankees" were willing to accept immigrants socially. They believed sincerely in a way of life that included Protestantism, profits, privileges, and pride in an English origin. The "Old Yankees" possessed the culture the immigrants had to acquire before they could become "Americans" in the eyes not only of the Yankees but of their children and of themselves. This elite set the tone for the immigrants who aspire to realize traditional American ideals of success and the equality of person and position. It controlled the city of New Haven and the suburban towns politically, financially, industrially, professionally, and socially.<sup>10</sup>

Social distance between the "Old Yankees" and the immigrant groups was heightened by

<sup>8</sup> Jerome K. Myers, Jr., *The Differential Time Factor in Assimilation: A Study of Aspect and Processes of Assimilation among the Italians of New Haven*, Unpublished Ph.D. Thesis, Sterling Memorial Library, Yale University, 1949.

<sup>10</sup> Cass Gilbert and Frederick L. Olmsted, *op. cit.*, pp. 12-13.

<sup>8</sup> John W. McConnell, *The Influence of Occupation Upon Social Stratification*, Unpublished Ph.D. thesis, Sterling Memorial Library, Yale University, 1937.

the fact that the immigrants were, on the whole, non-Protestant. Moreover, they first settled in rundown congested sections of the city. There they established churches and other institutions that tended to bind each ethnic group into a cultural enclave that was patterned as nearly as circumstances permitted after the society of its homeland. In addition, each ethnic group held itself apart from the others. Thus the community was separated into a series of almost self-contained subcultures and subsocieties.

In spite of isolating factors, the immigrants were brought under the influences of the dominant American cultural system through the job and the school. As the process of assimilation took its course, members of ethnic groups acquired generalized and officially professed American beliefs in the equality of man and the equality of opportunity. They also acquired an intimate personal knowledge of the inequalities associated with being a member of an out-group. As they made efforts to become equals in a society of equals, they were rebuffed by the "Old Yankees." The effects of these factors on the social structure of the community will be touched upon later in the analysis.

#### ASSESSMENT OF TRENDS

It was stated above that an assay of trends is difficult because data are not in existence to enable the construction of a satisfactory profile of what the stratification system was during a base period and then to measure another period against the base. There are, however, data on: (1) changes in the occupational structure between 1910 and 1940, (2) the present status structure, and (3) who is marrying whom. From these data it is possible to draw some conclusions about stratification in the community in recent years.

*Changes in the Occupational Structure.* A comparison of the occupational structure of the community during two different periods will provide the foundation for some deductions relative to opportunities for mobility. If the occupational structure is expanding toward the higher status occupations there should be excellent opportunities for individual upward mobility. But if the occupational structure is not expanding, particularly in the upper reaches, upward

mobility will be restricted to a very small percentage of the population. Those who have attained higher positions in a past generation tend generally to train their descendants to occupy these or similar positions. This leaves only the surplus positions for parvenus from the lower ranks.

With these ideas in mind, let us turn to the discussion of socio-economic data taken from the United States Censuses for 1910 and 1940, to see what has been happening to the New Haven occupational structure during the present century.

TABLE I. PER CENT GAINFULLY OCCUPIED INDIVIDUALS BY SEX AND SOCIO-ECONOMIC GROUP IN THE CITY OF NEW HAVEN FOR 1910,\* AND THE NEW HAVEN COMMUNITY IN 1940†

Socio-Economic Group	Males		Females	
	1910	1940	1910	1940
Professionals	4.3	6.0	7.7	12.5
Proprietors, Officials	11.6	11.6	5.3	2.6
Semi-Professionals	.4	1.4	.8	.9
Clerical and Sales Workers	13.4	17.3	19.4	31.1
Craftsmen, Foremen	24.5	22.7	7.5	1.3
Operatives	22.4	23.4	25.1	30.2
Service Workers	1.7	8.0	....	8.0
Domestics	5.5	.4	27.2	12.0
Unskilled Laborers	16.2	9.2	7.0	1.4
Total	100.0	100.0	100.0	100.0

\* Occupational data were published in 1910 for the City of New Haven only. The city comprised 86 per cent of the population at that time; the non-New Haven population in the community in 1910 was largely rural farm.

† Based on the figures given in *Thirteenth Census of the United States, 1910, Population, Occupation, Statistics*, Volume IV, Table 3, 166-179; these figures were reclassified by the use of Alba M. Edwards, *Classified Index of Occupations, Sixteenth Census of the U. S. 1940*; and Alba M. Edwards, *Alphabetical Index of Occupations and Industries, Sixteenth Census of the U. S., 1940*, U. S. Dept. of Commerce, Washington, 1940; *Sixteenth Census of the U. S., 1940, Population, Vol. II, Part I, Characteristics of the Population*, Tables 33, 51, and 74, Washington, 1943.

Study of Table I shows that between 1910 and 1940, male professionals in the New Haven community increased by 1.7 per 100 gainfully employed workers. Table I does not reveal a very important fact about what

has been happening in the professions, namely, that the increase shown was not divided equally between free professionals and salaried professionals. Actually the number of free professionals increased only 33 per cent, although the community's population increased by 48 per cent. This means that the number of doctors, lawyers, consulting engineers, architects and the like, increased only about two-thirds as fast as the general population. On the other hand the number of male salaried professionals increased by 93 per cent, almost twice as fast as the population of the community. This increase is accounted for almost wholly by the growth of the faculty of Yale University. This faculty, however, has been drawn from over the nation, rather than from the community. Therefore this growth is not a true reflection of communal growth. The proportion of proprietors, managers, and officials was the same in 1940 as in 1910—11.6 per cent of all gainfully employed males. The semi-professional group increased by one per hundred. There was a net gain of four per hundred in the clerical and sales group.

The skilled trades experienced a decline of 1.8 workers per hundred, while the operatives, mainly line workers in factories, increased by one per 100. The shift out of domestic service was one of the remarkable changes in the male occupational structure. Male domestics dropped from 5.5 per hundred in 1910 to 0.4 per hundred in 1940. Service workers, on the other hand, increased from less than two per 100 to eight per 100. Although we have no direct evidence as to where the domestic workers went, it may be no coincidence that there has been a corresponding increase in the percentage of service workers. On the surface it appears that the type of men who were domestics in 1910 have simply moved into other types of service work in more recent years. If this is the case there has been little net gain statuswise, for the bulk of service workers, whether domestic or otherwise, rank low in the hierarchy of occupational prestige. Finally, there was a sharp decline in the proportion of unskilled laborers—the actual loss was 7 per 100.

A comparison of the male and female sides of Table I will show that the distribution of gainfully employed females in the occupa-

tional structure was different from that for males in both 1910 and 1940, but the trends in this period are the same. The greatest changes were the sharp increases in the number of women employed as professionals, clerks and sales people, service workers and operatives. These increases were balanced by declines in the other major categories: domestics, skilled, and unskilled workers.

The proportion of gainfully employed males and females engaged in the non-skilled occupations declined sharply between 1910 and 1940. In 1910, almost one-fourth of the males and one-third of the females were working in the non-skilled jobs categorized under domestic service and unskilled labor. In 1940, the ratio had dropped to less than

TABLE II. PER CENT DISTRIBUTION OF GAINFULLY OCCUPIED INDIVIDUALS BY SEX, COMBINED INTO STATUS GROUPS IN THE CITY OF NEW HAVEN IN 1910, AND THE NEW HAVEN COMMUNITY IN 1940

Status Group	Males		Females	
	1910	1940	1910	1940
High	15.9	17.6	13.0	15.1
Medium	38.3	41.4	27.7	33.3
Low	45.8	41.0	59.3	51.6
Total	100.0	100.0	100.0	100.0

one male out of ten, and one female out of eight. Clearly a basic trend has been the shift out of non-skilled jobs.

A sharper profile of changes in the occupational structure emerges when the nine-socio-economic groups of Table I are combined into the *High*, *Middle*, and *Low Status* categories of Table II. The *High Status* category includes the professionals, proprietors, and officials. The *Middle Status* group encompasses the semi-professionals, clerical and sales, and the skilled crafts. The *Low Status* category covers the operatives, domestic and service workers and laborers. In the thirty-year interval under study, the high status category increased by 1.7 male workers per 100, the middle status group by 3.1 workers per 100, and the low status group showed a net decline of 4.8 workers per 100. These figures show that between 1910 and 1940 there was only a slight increase in the proportion of male workers in the higher prestige occupations, and that there was an

actual decline in the bottom group, and some expansion in the middle group. Viewed broadly there was remarkable stability in the male occupational structure.

The status profile for females is very similar to that for males. The *High Status* occupations experienced a net gain of 2.3 workers per hundred. Salaried female professionals experienced the greatest proportionate growth of any group in the occupational structure. This increase was composed in large part of low paid, salaried community professionals—school teachers, nurses, social workers and librarians. The *Middle Status* occupations increased by 5.6 workers per 100. The *Low Status* group declined by 7.8 workers per 100. This decrease was offset, of course, by the gains in the two higher groups.

When the changes in the proportion of male and female workers in each of the three status groups are compared, it is clear that many more opportunities have opened in the higher occupational positions in recent years for women than for men. These positions are, on the whole, low paid. They are filled largely by single women who have been specially trained, sometimes for several years. If these women stay in the labor force they tend to remain single, but if they marry, they generally leave their positions. This provides vacancies for other single, trained women. There is a much lower rate of turnover among trained men who attain professional or executive positions. This means that there are far fewer opportunities for males in the higher prestige groups than for females, both on the basis of the number of new openings that have developed in the period since World War I, and the number of vacancies in a particular occupation.

The significance of this generalization becomes apparent when we analyze trends within manufacturing industries. In 1910, 50 per cent of all gainfully employed workers were engaged in industry; by 1940, this percentage had declined to 40. However, this was still the largest single type of employment. Within the various industries, certain changes occurred that are pertinent to this discussion. In the first place, large corporations bought up small family-owned industries and corporations—this resulted in a 53 per cent decline in the number of pro-

prietors. In the second place, when large corporations bought out small ones, they replaced or retired most of the officers of the old corporation. In this process there was a pruning off of officers. The result was a 41 per cent decline in the number of salaried officials of corporations between 1910 and 1940, and there was a real decrease in the number of officers per plant. In 1910, there were 3.2 officers to each incorporated manufacturing plant, and the number had declined to 1.2 per plant by 1940. In the third place, there was a decrease in the ratio of salaried officials of corporations to clerical and wage employees. In 1910, there was one officer to every 33 employees; in 1940, there was one officer to 50 employees. However, the officers were paid three times as much in 1940 as in 1910 and the mean incomes of the clerical and wage workers doubled in the same period.<sup>11</sup>

As the large corporations reduced their officer personnel they enlarged the clerical force; there was an increase of 37 per cent in the number of male clerical workers, in the face of a decrease of 20 per cent in the proportion of the community's population that was gainfully employed in industry between 1910 and 1940. Possibly many a clerk in 1940 was doing the work of an officer of 1910. This process of downgrading officers to clericals was more economical from the viewpoint of the cost accountant, but it shrank "room at the top" by at least one-half, limiting the potential upward mobility of many men. Simultaneously, however, it did allow for a considerable expansion in the white-collar supervisory positions at a relatively lower salary. The men who filled the clerical positions represented by the net gain of 37 per cent could look down upon the wage workers, because they had achieved the right to wear street clothes at work, and because they earned on the average 40 per cent more than the wage workers.

We may conclude from occupational data two things about this dimension of the status

<sup>11</sup> The mean income of officers of corporations was \$2,272; clerical employees averaged \$893, and wage employees \$543 in 1909; in 1939, the average for each group was: officers, \$6,893, clericals, \$1,777, wage earners, \$1,064, Thirteenth Census of the U.S., 1910, Vol. IX, *Manufactures*, pp. 162-163; Sixteenth Census of the U.S., 1940, Vol. III, *Manufactures*, p. 166.

structure: *First*, the occupational structure of the New Haven Community has been remarkably stable since before World War I; *Second*, the middle status occupations support a larger proportion of the population than they did two generations ago. This enlargement of the middle rank occupations has been accompanied by an actual decline in the lower rank occupations. The higher status occupations, except for salaried professionals, support a proportionately smaller number of workers than forty years ago.

Since higher class people are supported usually by high status occupations, it seems legitimate to infer from these trends that movement into the higher positions in the status system is more difficult today than it was before World War I. On the other hand, more opportunities are open today in the middle range occupations than in the early years of this century. It appears safe to assume that most of the men and women who fill these middle range positions today have been upward mobile in the course of their careers. Our data indicate, however, that unless the higher status positions expand in the next generation, the children of those who have moved into these middle rank jobs will be stabilized, for the most part, within a relatively narrow occupational and status range. Further upward mobility appears to be limited to the able and lucky few who may fill the positions left vacant by the failure of the present generation of high status families to produce and train enough replacements for the highest positions in the status system which they now hold.

While the emphasis here has been on the higher and middle status positions, we must not forget that 41 per cent of the males, and almost 52 per cent of the females are engaged in low status occupations. Data the writer has accumulated by 1,500 personal interviews on the education and occupations of fathers and sons show that the lower the educational and occupational level of the father the greater the probability that the son will have a meager education and will follow a low ranking occupation. Conversely, the higher the position of the father the greater the probability that the son will be trained for a high status occupation. Thus we infer that the probabilities are high that there will be little mobility out of the lower status positions into the middle

ones unless the middle status occupations expand far more rapidly than they have during the last two generations. Before these lower status people can move into the middle status positions, under present circumstances, one of two things must occur. Either they must acquire more education and skills than they now possess or the qualifications for the middle status occupations must be lowered drastically. The writer has no evidence to indicate that either one of these things is likely to happen in this community in the foreseeable future. In short there will be a bottom and many people will be near it, if not actually on it.

*The Development of Parallel Structures.* A second body of relevant data is the material Dr. Jerome K. Myers and the writer have assembled on the social structure of the New Haven community during the last five years. They have recently completed interviews on a 5 per cent random sample of families. The data indicate that the community's current social structure is differentiated *vertically* along racial, ethnic, and religious lines, and each of these vertical cleavages, in turn, is differentiated horizontally by a series of strata or classes that are encompassed within it. Around the sociobiological axis of race two social worlds have evolved—a Negro world and a white world. The white world is divided by ethnic origin and religion into Catholic, Protestant, and Jewish contingents. Within these divisions there are numerous ethnic schisms. The Irish hold aloof from the Italians, and the Italians move in different circles from the Poles. The Jews maintain a religious and social life separate from the Gentiles. The horizontal strata that transect each of these vertical structures are based upon the social values that are attached to occupation, education, place of residence in the community, and associations. Thus ethnic origin, occupation, education, and residence are combined into a complicated status system.

The vertically differentiating factors of race, religion, and ethnic origin, when combined with the horizontally differentiating ones of occupation, education, place of residence and so on, produce a social structure that is highly compartmentalized. The integrating factors in this complex are twofold. First, each stratum of each vertical division is similar in its cultural characteristics to

the corresponding stratum in the other divisions. Second, the cultural pattern for each stratum or class was set by the "Old Yankee" core group. The "Old Yankee" provided the master cultural mold that has shaped the class system of each racial, religious and ethnic group. In short, a major trend in the social structure of the New Haven community during the last half-century has been the development of *parallel class structures* within the limits of race, ethnic origin, and religion.

This development may be illustrated by the fact that there are seven different Junior Leagues in the white segment of the community for appropriately affiliated upper class young women. The top ranking organization is the New Haven Junior League which draws its membership from "Old Yankee" Protestant families whose daughters have been educated in private schools. The Catholic Charity League is next in rank and age—its membership is drawn from Irish-American families. In addition to this organization there are Italian and Polish Junior Leagues within the Catholic division of the society. The Swedish and Danish Junior Leagues are for properly connected young women in these ethnic groups, but they are Protestant. Then too, the upper class Jewish families have their Junior League. The Negroes have a Junior League for their top-drawer young women. This principle of parallel structures for a given class level, by religious, ethnic and racial groups, proliferates throughout the community.<sup>12</sup>

The impact of this structure on the lives of individuals may be assessed, in some measure, by who is marrying whom.<sup>13</sup> We

have interviewed a 50 per cent random sample of couples who were married in New Haven during 1948, 1949, and 1950. All couples were stratified by the use of an Index of Social Position<sup>14</sup> into classes or strata. When the data were analyzed in the light of the concept of parallel social structures it was found (1) that 91 per cent of all white marriages were within the same religious group, and (2) that 93 per cent were within the same social level. These figures show that the community is tightly compartmentalized vertically by race and religion, and horizontally by status, class, or social level.

#### CONCLUSIONS

The assessment of trends in the status structure of American society is a difficult undertaking because data on stratification for the society as a whole are non-existent. Sociologists who have drawn conclusions about trends in the society as a whole have done so on shaky grounds. Their generalizations have been based on data from a few small communities. Before we can draw definitive conclusions about the trend of stratification in the "mass society" we need better and more appropriate data than have been utilized to date.

In the New Haven community the data demonstrate that during the past two generations highly stratified parallel social structures have evolved that compartmentalize the social life of its inhabitants. On the basis of these data, it is inferred that this compartmentalization is becoming more rigid with the passage of time. The rigidity in the status structure is reinforced by: (a) the tight occupational structure and (b) the association of ethnic origin with occupational pursuits. This structure is bulwarked further by the organization of the community's religious, educational, marital, and leisure-time institutions.

<sup>12</sup> For an exhaustive analysis of this principle as it applies to women's organizations, see Mhyra S. Minnis, *The Relationship of Women's Organizations to the Social Structure of a City*, Ph.D. Dissertation, Yale University, Sterling Memorial Library, 1951.

<sup>13</sup> For a statement of methodological procedures and some findings of this study, see August B. Hollingshead, "Cultural Factors in the Selection of Marriage Mates," *American Sociological Review*, 15 (October, 1950), pp. 619-627; August B. Hollingshead, "Age Relationships and Marriage," *American Sociological Review*, 16 (August, 1951) pp. 492-499.

<sup>14</sup> This index relies upon the scaling of occupation, education, and residence, and the assignment of weights to place families or individuals in the status structure. Its construction and validation will be described in a forthcoming monograph by the present author.

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## A CONSIDERATION OF DIFFERENCES IN THE EXTENT AND LOCATION OF THE FORMAL ASSOCIATIONAL ACTIVITIES OF RURAL-URBAN FRINGE RESIDENTS\*

WALTER T. MARTIN

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AVAILABLE studies of formal social participation<sup>1</sup> can for the most part be easily separated into those that are concerned with the associational activities of families in rural farm areas<sup>2</sup> and those that deal with urban dwellers.<sup>3</sup> Discussion of the social participation patterns of residents of the rural-urban fringe are few in number and tend to be tangential to the primary concerns of the authors.<sup>4</sup> With the continuing rapid settlement of the unincorporated territory at the urban periphery the rural-urban dichotomy becomes increas-

ingly artificial and a real need arises for an analysis of social participation in terms of the entire population of the functionally interdependent rural-urban community rather than special aspects of it. The present paper does not attempt this task but contributes by adding to existing knowledge of social participation in the area which has been studied least, the rural-urban fringe. This in itself is an important task since it might well be questioned whether factors found to be rather uniformly associated with participation differentials in farming areas, small towns and large urban centers, would play the same role in relation to associational activities in an area said to be so different.<sup>5</sup> An analysis of the location of these activities should also give some indication of the extent to which the fringe population tends to be integrated into central community life or to be organized as a separate social entity. Our task is thus twofold: to see whether certain factors found in previous studies to be associated with extent of formal social participation bear a similar relationship in the case of a specific rural-urban fringe population, and to ascertain whether these same factors are also related to differences in the location of these associational activities.

### THE HYPOTHESES

We are not in a position to bring all of the findings of previous studies into one theoretical system but have found it possible to group a number of them under a few broad propositions. Our procedure for evaluating these more general hypotheses will be to subject to statistical test null hypotheses involving each of the specific items subsumed

\* The writer is indebted to the Graduate School of the University of Oregon for a grant making possible the analysis reported here.

<sup>1</sup> By formal social participation is meant membership and attendant activities in formally organized associations such as clubs, lodges, union locals, and other groupings with membership qualifications, dues and a regular meeting date.

<sup>2</sup> Selected examples are W. A. Anderson and Hans H. Plambeck, *The Social Participation of Farm Families*, Bulletin 8, Cornell University Agricultural Experiment Station, Ithaca, March, 1943; Frank D. Alexander and Lowry Nelson, *Rural Social Organization in Goodhue County*, Bulletin 401, University of Minnesota Agricultural Experiment Station, Minneapolis, February, 1949; Donald G. Hay, "The Social Participation of Households in Selected Rural Communities of the Northeast," *Rural Sociology*, 15 (June 1950), 141-148; W. E. Garnett and A. C. Seymour, *Membership Relations in Community Organizations*, Bulletin 287, Virginia Agricultural Experiment Station, Blacksburg, June, 1932.

<sup>3</sup> For example, Mirra Komarovsky, "The Voluntary Associations of Urban Dwellers," *American Sociological Review*, 11 (December 1946), 686-698; Floyd Dotson, "Patterns of Voluntary Association Among Urban Working-Class Families," *American Sociological Review*, 16 (October 1951), 687-693.

<sup>4</sup> Walter Firey, *Social Aspects to Land Use Planning in the Country-City Fringe: The Case of Flint, Michigan*, Bulletin 339, Michigan State College Agricultural Experiment Station, East Lansing, June 1946; Solon T. Kimball, *The New Social Frontier: the Fringe*, Bulletin 360, Michigan State College Agricultural Experiment Station, East Lansing, June 1949; Myles W. Rodehaver, "Fringe Settlement as a Two-Directional Movement," *Rural Sociology*, 12 (March 1947), p. 56.

<sup>5</sup> The rural-urban fringe according to the literature is an "institutional desert," a "marginal area," a "twilight zone," a "dead center" characterized by "pathological conditions," "shifting land values," and by "variability and instability," and "capriciousness and diseconomy" in land use patterns.

in that category. In all cases except one, the propositions tested concern *location* as well as *extent* of formal associational activities.<sup>6</sup> The hypotheses concern a specific universe of study and are tested with data obtained from a sample of this population.

I. There is no significant relationship between either the extent or the location of formal associational activities and the accessibility of the city center to the fringe family's residence. This hypothesis will be tested specifically in terms of these empirical data: (1) distance of residences in the fringe area from the city center according to one-half mile concentric zones; (2) time required by fringe housewives to travel to the downtown area on a typical weekday afternoon; (3) fringe or urban location of the chief breadwinner's job; (4) time spent daily traveling to and from work by urban employed fringe dwellers; (5) daytime availability of telephone, automobile, and bus within a quarter of a mile of the home.

II. There is no significant relationship between either the extent or the location of formal associational activities and residential mobility or previous residential location. The specific empirical propositions concern: (1) last previous residential location in local fringe area, local urban area, or elsewhere; (2) last previous residential location of in-migrants, rural or urban; (3) residential location in 1941 (Pearl Harbor Day) in local fringe area, local urban area, or elsewhere; (4) length of time at present address.

III. There is no significant relationship between either the extent or the location of formal associational activities and socio-economic status. These empirical data are available: (1) scores on Chapin's Social Status Scale; (2) occupation of the chief breadwinner; (3) home tenure; (4) amount of land; (5) presence or absence in the home of flush toilet and shower or tub.

IV. There is no significant relationship between either the extent or the location of

formal associational activities and the location of informal associational activities. The one empirical proposition involves the location of the family most frequently visited.

V. There is no significant relationship between location of formal associational activities and the extent of formal social participation. The one empirical proposition considered is based on scores on Chapin's Social Participation Scale.

VI. There is no significant relationship between either the extent or the location of formal associational activities and general adjustment to residence location in the rural-urban fringe. Three sets of empirical data will be considered: (1) the interviewee's subjective rating of the husband's satisfaction; (2) the interviewee's subjective rating of the wife's satisfaction; (3) scores on the Rural-Urban Residential Preference Scale.<sup>7</sup>

For each of these empirical propositions the null hypothesis regarding the universe of study will be subjected to the chi square test of independence and will be rejected if the computed value of chi square is sufficiently large to be significant at the five per cent level.<sup>8</sup>

#### SOURCE OF THE DATA

The analysis here reported treats data obtained through interviewing 832 families and single individuals<sup>9</sup> residing in the rural-urban fringe shared by Eugene and Springfield, two small, adjacent, western Oregon communities. This is an area of rapid population growth—between 1940 and 1950 the

<sup>7</sup> This is an original, Cornell-type, attitude scale designed to score fringe residents in terms of their adjustment to residence in the rural-urban fringe. For details see the writer's monograph, *Rural-Urban Fringe: A Study of Adjustment to Residence Location*, Eugene: University of Oregon Press, forthcoming.

<sup>8</sup> Such a value of chi square means that for two characteristics the observed frequencies for our sample data deviate so much from the frequencies expected if the two characteristics were independent that such deviations would result from chance variations of sampling only 5 times in 100. (By "independent" is meant that the distribution of one characteristic should be the same regardless of the other characteristic. See Wilfrid J. Dixon and Frank J. Massey, Jr., *Introduction to Statistical Analysis*, New York: McGraw-Hill, 1951, p. 187.) On this basis we reject the idea that the two characteristics are independent in the universe under study.

<sup>9</sup> This is an eleven per cent area sample of the fringe population. Martin, *op. cit.*, Appendix A.

<sup>6</sup> By location is meant fringe or city place of meeting. Extent of social participation in this paper always refers to a score on Chapin's Social Participation Scale, an instrument crediting the family with attendance, contribution of funds, committee memberships and officer positions, in addition to the number of memberships. F. Stuart Chapin, *Experimental Design in Sociological Research*, New York: Harper and Brothers, 1947, *passim*.

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population of Springfield increased by 184.0 per cent to 10,807, and that of Eugene by 72.2 per cent to 35,879.<sup>10</sup> The fringe area increased even more rapidly in spite of loss to the cities through annexation.

Our sample families reveal considerable mobility. In reporting last previous residence location, 33.1 per cent said they lived in Eugene or Springfield, 48.5 per cent lived outside the general Eugene-Springfield area, and only 18.4 per cent resided in the fringe area. In addition to this high proportion of in-migrants, general mobility is revealed in the figures on length of time at present residence: less than six months, 13.9 per cent; less than one year, 31.2 per cent; less than two years, 45.1 per cent; less than five years, 76.0 per cent.

To this picture of high mobility must be added a note of stability—only 10.8 per cent of the families reported renting or leasing their property.<sup>11</sup> The area of study is thus seen to be a population of older, stable neighborhoods and scattered clusters of "old-timers" almost lost in the influx of recent, but home owning, in-migrants. The findings reported here must be evaluated in relation to these patterns of mobility and recent in-migration.

#### TESTING THE HYPOTHESES

In order to test the hypotheses about *extent* of social participation, scores were obtained on Chapin's Social Participation Scale for 751 or 90 per cent of the families. These scores were classified as 0 (262 or 34.9 per cent), 1-9 (336 or 44.7 per cent), 10-19 (117 or 15.6 per cent) and 20 or more (36 or 4.7 per cent).<sup>12</sup> For the testing of hypotheses about *location* of associational activities the 751 families were classified as nonparticipants (262 or 34.9 per cent), only fringe associations (48 or 6.4 per cent), only

city associations (379 or 50.5 per cent), and both city and fringe associations (62 or 8.2 per cent).<sup>13</sup> The two sets of hypotheses are examined concurrently rather than consecutively, and a summary of statistical findings is presented in Table 1.

*I. Hypothesis of accessibility.* Five factors having to do with accessibility of the city center are analyzed in relation to the extent and location of social participation.

*Extent.* As seen in Table 1, only one factor, the daytime availability of a telephone, an automobile and a bus within a quarter of a mile of the home, is significantly related to extent of participation.<sup>14</sup> The relationship is clearcut and consistent with families having "none or one" facility having a greater than expected frequency only in the non-participant cell, and those with "all three facilities" having greater than expected frequencies in all cells but the nonparticipant one.<sup>15</sup> The greatest contribution to the size of the chi square results from the deficiency of nonparticipants and the surplus of high participants in the "all three facilities" category. Since only one of the five propositions can be rejected, the general hypothesis of

<sup>13</sup> This is a very crude measure of participation since it does not consider number of memberships or extent of participation. On an individual rather than family basis the following is found. Out of the 832 families and single individuals, 166 males (usually the head of the house) and 239 females (usually the wife of the head) or a total of 405 persons reported no memberships in formal organizations. Of the 370 memberships reported by the remaining males, 295 or 79.7 per cent were located in one of the central cities and 75 or 20.3 per cent were located in the fringe area. Of the 283 memberships reported by females 209 or 73.9 per cent were located in the central cities and 74 or 26.1 per cent were located in the fringe.

<sup>14</sup> This finding is similar to those of other researchers. Cf. N. L. Whetten and E. C. Devereux, Jr. *Studies of Suburbanization in Connecticut, #1 Windsor*, Bulletin 212, Connecticut State College Agricultural Experiment Station, Storrs, October 1936, 123-124.

<sup>15</sup> "Greater than expected" means that the observed frequency in a designated cell of the contingency table is greater than the frequency expected if the two factors are independent. "Less than expected" means that the observed frequency in a cell is smaller than expected theoretically. The first situation will sometimes be referred to as a "surplus" of cases in a cell, the second as a "deficiency" of cases.

<sup>10</sup> U. S. Bureau of the Census, *U. S. Census of Population: 1950*, Vol. I, "Number of Inhabitants, Ch. 37: Oregon," Washington, D. C., 1951. For a detailed description of these communities, *ibid.*, Ch. III.

<sup>11</sup> This finding is not incompatible with high mobility since rental property was practically nonexistent in the area at the time of the study.

<sup>12</sup> In a number of contingency tables the fourth category was combined with the third to provide sufficiently large cell frequencies for the chi square test.

TABLE 1. SUMMARY OF STATISTICAL FINDINGS REGARDING THE HYPOTHESES<sup>17</sup>

HYPOTHESIS	Social Participation Score			Location of Associations		
	d.f.	X <sup>2</sup>	X <sup>2</sup> /d.f.	d.f.	X <sup>2</sup>	X <sup>2</sup> /d.f.
<b>I. Accessibility of City Center</b>						
1. Concentric zone	9	11.72	1.30	9	14.15	1.57
2. Time of wife to city center	4	8.84	2.21	3	18.41	6.14*
3. Location of breadwinner's job	4	4.16	1.04	6	13.91	2.32*
4. Time of breadwinner to job	8	12.54	1.57	3	5.52	1.84
5. Availability of auto, phone, bus	6	27.91	4.65*	6	23.46	2.91*
<b>II. Mobility and Previous Location</b>						
1. Last residence location	6	8.71	1.45	6	13.84	2.31*
2. Last residence rural or urban	6	6.29	1.05	12	13.43	1.12
3. 1941 residence location	6	28.08	4.68*	6	32.07	5.34*
4. Time at present residence	12	37.34	3.11*	12	40.72	3.39*
<b>III. Socio-Economic Status</b>						
1. Social Status Score	6	79.39	13.23*	6	47.96	7.99*
2. Occupation	6	57.66	9.61*	9	46.50	5.17*
3. Home tenure	6	3.46	.58	6	1.32	.22
4. Amount of land	9	23.50	2.61*	9	27.31	3.03*
5. Bathroom facilities	4	22.65	5.66*	3	17.63	5.88*
<b>IV. Informal Social Participation</b>						
1. Location of family most frequently visited	6	10.39	1.73	6	15.65	2.61*
<b>V. Formal Social Participation</b>						
1. Social Participation Score	—	—	—	4	46.72	11.68*
<b>VI. Adjustment to Fringe Residence</b>						
1. Rating of husband	6	7.09	1.18	3	3.55	1.18
2. Rating of wife	6	10.83	1.80	3	5.35	1.78
3. Attitude score	6	5.53	.92	6	12.28	2.05

\* Significant at the 5 per cent level

<sup>17</sup> There is no completely satisfactory measure of the degree of relationship where chi square tests have indicated a significant amount of relationships. The X<sup>2</sup>/d.f. columns of Table 1 show the size of chi square in each test relative to the number of degrees of freedom. The figures in the columns are thus comparable. See Dixon and Massey, *op. cit.*, p. 309.

no relationship between extent of participation and accessibility remains tenable.<sup>16</sup>

**Location.** Three of the five null hypotheses regarding location can be rejected.<sup>18</sup> In the

<sup>16</sup> The procedure followed here cannot be considered a crucial test of the general hypothesis since there are two unanswered questions involved: (1) Are the items tested a sufficient and representative sample of all items that could be tested in relationship to this general hypothesis? (2) Are the items tested of equal importance in evaluating the general hypothesis? It could be argued, for example, that the items analyzed under Hypothesis I are not the relevant items or that the one null hypothesis rejected is more important than the four that were not rejected. Pending proof of these claims, however, our data provide insufficient basis for rejecting Hypothesis I.

<sup>18</sup> While not statistically significant the contingency table on concentric zones is very suggestive:

case of "travel time of the wife to the city center" the greatest contributions to chi square result from the surplus in "town associations only" and the deficiency in non-participants among those families whose travel time is less than 15 minutes. In the case of the location of the breadwinner's job, the surplus of "town associations only" where the job has urban location, and the lack of such associations among families with fringe location of jobs, is most striking. Where a bus within one-quarter of a mile, a telephone and an automobile are all available there is a surplus in all location cate-

those families in inner zones are deficient in all location categories except "town associations only," those in out-lying zones are deficient only in this category.

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gories with a deficiency of nonparticipants. For those families having none or only one such facility this situation is exactly reversed. The findings strongly suggest rejection of the general hypothesis of no relationship between accessibility and location of membership organizations.

II. *The hypothesis of mobility and previous residential location.* Four corollary, null hypotheses are examined in relation to extent and location of social participation.

*Extent.* As might be expected the contingency table for last previous residence location and that for residence location on Pearl Harbor Day show very similar patterns. Local fringe location in these instances is shown to be associated with high participation scores, local urban location is associated with lack of nonparticipation, and in-migration is marked by excessive nonparticipation. The large number of nonparticipants among in-migrants and the large number of families scoring "20 or more" among those previously living in the fringe area contribute most to the size of chi square. Rejection of the null hypothesis is possible only in the case of location on Pearl Harbor Day, however.

As indicated above, in-migrants (those families whose last previous address was outside the general Eugene-Springfield area) are in general characterized by a high proportion of nonparticipants. However, when these families are classified according to the rural or urban location of their previous residence and these categories related to their scores on the social participation scale, some suggestive although not statistically significant patterns are revealed. Those in-migrant families coming from cities of over 50,000 tend to fall in the high participation columns; those from communities of less than 50,000 have a smaller than expected frequency only in the nonparticipant or zero score column; those from rural areas, either farm or non-farm, have fewer than expected frequencies in all participation classes except nonparticipant.<sup>19</sup> Chi square is not significant.

Length of time at the present residence is clearly and significantly associated with ex-

tent of participation.<sup>20</sup> Chi square is augmented most as a result of the much greater than expected number of nonparticipants among those with less than one year residence and by the lack of nonparticipants among those living more than ten years at the present location.

While only two of the four propositions can be rejected on statistical grounds, the very similar patterns revealed in three contingency tables suggests that the general hypothesis under consideration is not tenable.

*Location.* The location of last previous residence and the location of Pearl Harbor Day residence reveal an identical relation to location of formal associational activities. Local fringe residence in these instances is associated with greater than expected frequencies in the "fringe associations only" and "both fringe and city" location of activities. Local urban residence location is associated with "urban only" location of organizations. In-migration is marked by an excess of nonparticipation. Chi square is significant in each case.

Length of time at the present residence is consistently and significantly associated with variations in location of activities. The two outstanding contributions to chi square result from the surplus of non-participants among those residing less than a year in the present residence and the greater than expected number of families among those residing ten years or longer in the present residence that are in the "both city and fringe associations" category.

Three out of four propositions are rejected and the general hypothesis of mobility and former residential location is considered not tenable.

III. *The hypothesis of socio-economic status.* Five corollary null hypotheses are tested in regard to extent and location of formal participation.

*Extent.* With grouped scores on Chapin's Social Status Scale<sup>21</sup> related in a contingency table to grouped scores on Chapin's Social Participation Scale,<sup>22</sup> a consistent positive

<sup>20</sup> Cf. Whetten and Devereux, *op. cit.*, pp. 124-125.

<sup>21</sup> The categories and frequencies are: 0-49 (135), 50-99 (298), 100-149 (229), 150 or more (82).

<sup>22</sup> The categories and frequencies are: 0 (262), 1-9 (347), 10 or more (135).

<sup>19</sup> Rodehaver reports that former rural residents had lower participation scores for fringe organizations and for urban organizations than did former urban residents. *Op. cit.*, p. 56.

relationship is to be observed.<sup>23</sup> The hypotheses of no relationship can be safely rejected on the basis of the value of chi square.

In testing the relationship between occupation and extent of participation, the Bureau of Census classification of occupations was further grouped into four broad categories<sup>24</sup> which may be called white collar, farmer, skilled and unskilled. These classes of occupation are significantly associated with extent of formal participation. Families in which the chief breadwinner is a white collar worker cluster strikingly in the high participation column. Farmers have greater than expected frequency only in the nonparticipant column. Skilled workers show fewer than expected cases in both the nonparticipant and the high participation columns. Unskilled workers cluster in the nonparticipant column. Those relationships are statistically significant and the null hypothesis may be rejected.<sup>25</sup>

The amount of land is clearly and consistently associated with extent of participation in a positive fashion. Chi square is significant.

As one possible indicator of socio-economic status the presence or absence of a flush toilet and tub or shower are significantly associated with extent of participation. The largest contributions to the size of chi square results from the few high participation scores and the many zero participation scores among the families having none of the facilities listed. Those families with fully equipped homes have fewer than expected nonparticipants.

Four out of five of the factors examined are significantly related to extent of participation. Rejection of the general hypothesis of socio-economic status is indicated.

*Location.* Social status scores on Chapin's scale are positively and significantly asso-

ciated with location of associational activities as well as with extent, i.e., high scores tend to be associated with city location of associations, low scores with fringe location.

Interesting and significant results are obtained when the four occupational categories are related to location of activities. The white collar group has greater than expected frequencies in each of the three location categories ("fringe only," "city only," "both fringe and city"). Farmers have fewer than expected scores only in the "city associations only" category. Skilled workers have fewer than expected frequencies in all but the "city association only" category. In contrast unskilled workers have fewer than expected frequencies in all but the nonparticipant category.

Those families having six acres or more of land tend to cluster in the "fringe only" and "both fringe and city" location categories, resulting in sizeable contributions to chi square. Where the amount of land is less than one-half acre families tend to be nonparticipants or to belong only to urban located organizations. Chi square is significant.

With families dichotomized as having flush toilet and tub or shower and as having none or some of these facilities a significant relation to location of associational activities is observed.

Four out of five factors examined are significantly related to location of formal associational activities and a rejection of the general hypothesis of socio-economic status is indicated.

*IV. The hypothesis of informal association.* Only one indicator of the location of informal associational activities is available—the residence location of the family reported as being visited most frequently.

*Extent.* A consistent relationship between extent of formal association and the location of the family most frequently visited is to be seen. Those reporting no visiting are characterized by a surplus of zero scores on the participation scale, as are those who visit most frequently a family in the same neighborhood. Where the visited family is located outside the local neighborhood but still in the fringe, or particularly when they are residents of Eugene or Springfield, the tendency is toward high extent of formal association. Chi square falls somewhat short of significance, however.

<sup>23</sup> Hay found "consistent and generally marked relationship" between scores on his expanded version of Chapin's socio-economic status scale and average participation scores. *Op. cit.*, p. 147.

<sup>24</sup> The categories and frequencies are: professional, semiprofessional, proprietors, managers, officials, clerical and sales workers (200); farmers and farm managers (44), craftsmen, foremen, skilled workers, and operatives (339), service workers, farm laborers, unskilled workers (174).

<sup>25</sup> For similar results see Komarovsky, *op. cit.*; Whetten and Devereux, *op. cit.*, pp. 121-123; Gannett and Seymour, *op. cit.*, pp. 32-33.

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*Location.* A consistent and significant positive relationship is observed when location of visited family is related to location of formal social participation. Chi square is augmented most by the smaller than expected number of families having only fringe located formal activities and the greater than expected number having only city located formal activities among those families visiting urban families most frequently. A sizeable contribution also comes from the greater than expected number of families visiting in the same neighborhood that belong only to fringe located associations.

V. *Hypothesis of formal association.* Whether or not a fringe family belongs only to fringe located associations, only to city located associations, or to both, is closely related to extent of participation as measured by the Chapin Social Participation Scale.<sup>26</sup> For example, those families scoring ten or more on the scale are characterized by fewer than expected numbers belonging only to fringe or only to urban associations, and by markedly greater than expected numbers belonging to both urban and fringe located associations. In contrast those families scoring one to four on the scale are characterized by markedly fewer than expected numbers belonging to both urban and fringe organizations. These families have a greater than expected number with only city associations and fewer than expected with only fringe associations. Chi square is significant and the hypothesis of no relationship can be rejected.

VI. *Hypothesis of general adjustment to residence in the fringe area.* Three empirical propositions are tested.

*Extent.* For all three factors (rating of the husband, rating of the wife, and scores on the attitude test) the contingency tables reveal a consistent association of high satisfaction with residence location in the fringe and high social participation, and of dissatisfaction with fringe residence and non-participation. This consistency of relationship is suggestive but chi square is not significant in any case.

*Location.* In the case of each of the factors just discussed, the contingency table reveals a pattern of relationship to location of activities which is consistent for all three

factors. High satisfaction with the fringe area is associated with lack of nonparticipants and greater than expected numbers in each of the three location categories; dissatisfaction is associated with nonparticipation and, in the case of the rating of the wife, with participation only in fringe located associations. Again the highly similar findings are suggestive even though chi square falls short of significant size in every case.<sup>27</sup>

#### CONCLUSIONS

In summary these more general conclusions are suggested.<sup>28</sup>

(1) While not conclusive, the evidence indicates that factors shown to be associated with formal social participation in other areas are similarly related in the rural-urban fringe. For example, socio-economic status is clearly associated with extent of participation, as are length of time at the present residence and location of previous residence.

(2) Urban orientation as indicated by the location in the city of the breadwinner's job or of the family most frequently visited is not important in the extent of social participation, but is in the location of membership organizations.

(3) Accessibility of the city center is not an important factor in the extent of formal participation<sup>29</sup> but probably is influential in the location of membership organizations.

(4) Factors which are significantly associated with extent of participation are likely to be important in relation to location of associational activities. In our study, items significant in the first case are without exception significant in the second. In terms of the size of  $X^2/d.f.$ , the items examined tend to have similar rankings for "extent" and for "location."

(5) Extent of formal association and the location of associational activities are mean-

<sup>27</sup> In the relation of attitude scores to location the chi square of 12.28 just misses the required 12.59.

<sup>28</sup> These generalizations, as in the case of the findings presented earlier, apply specifically to the universe of study, the Eugene-Springfield fringe area.

<sup>29</sup> The one significant item—availability of a telephone and automobile and a bus within one quarter mile—may be significant only as an indicator of socio-economic status.

<sup>26</sup> Non-visitors were omitted in this analysis because of small frequencies in some cells.

ingfully related, with high participation families tending to belong to both fringe and city organizations, and low participation families tending to belong only to fringe or only to city organizations.

(6) Neither extent nor location of formal associational activities appear to be critical

factors in the general adjustment of fringe residents to location in the rural-urban fringe. However, the tendency toward a positive though non-significant relationship in all three of the items analyzed underscores the need for continuing inquiry and for the development of more precise instruments.

## CRITICAL LETTERS TO THE EDITORS OF THE SOVIET PRESS: AREAS AND MODES OF COMPLAINT †

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THE growth of mass communication as a central feature of industrial societies makes its exploration of increasing importance in comparative studies of contemporary large scale social systems. It is widely recognized that the patterns of mass communication not only reflect the distinguishing features of any society, but also that these patterns have a significant role to play as both syntonic and dystonic elements in the functioning of the total system. This paper is devoted to a content analysis of one segment of the mass communications materials in a contemporary large scale industrial social system, namely, the so-called self-criticism (*samokritika*) letters addressed to the editors of the domestic Soviet press.

Space limitations permit here only a few general comments on the meaning and ramifications of the institution of "self-criticism" in Soviet society.<sup>1</sup> The term owes its presence in the Bolshevik lexicon to the fact that Marx had stated that a distinctive feature of proletarian revolutions as against capitalist or bourgeois revolutions was the fact that the former continuously criticize

their own mistakes and weaknesses.<sup>2</sup> Lenin treated this idea as a principle for the Communist Party, and at the same time transformed it to suit the peculiar conditions and operating ideology of Bolshevism. Since that time it has gone through a series of further elaborations and transformations.

The element of public or open criticism of its own mistakes by the ruling Communist Party remains as only a fossilized part of the contemporary Soviet definition of self-criticism. The main emphasis has instead shifted to two other aspects of the institution. The first involves criticism of one's own mistakes and the deficiencies in one's conduct and work. This type of self-criticism, while still practiced in the Soviet Union, is essentially a sham performance exacted from Soviet citizens in various organizational group contexts—Party, factory, farm, school, etc.—as a way of setting an example for others and of exacting public penance from sinners against the Party line. The other aspect of self-criticism is not strictly self-criticism at all, being "public criticism of the work defects of one's own enterprise or organization and of the activity and conduct of individual workmen."<sup>3</sup> This type of self-criticism is the predominant mode in the Soviet system, and it accounts for a large portion of the mass communication material which flows through the Soviet radio and press.

† Revised version of paper read at the annual meeting of the American Sociological Society held in Chicago, September 5, 1951.

\* The authors are indebted to the Russian Research Center of Harvard University for providing free time and research assistance to facilitate completion of this study.

<sup>1</sup> For fuller treatment see Alex Inkeles, *Public Opinion in Soviet Russia*, Cambridge: 1950, especially Chapter 14; and Kent Geiger, "The Nature and Development of Self-Criticism in Letters to the Editor in the Soviet Union," unpublished M.A. thesis, Harvard University, 1950.

<sup>2</sup> Karl Marx, *The 18th Brumaire of Louis Bonaparte*, translated by Daniel de Leon, Chicago, 1919, p. 14.

<sup>3</sup> D. N. Ushakov, *Tolkovy Slovar Russkogo Yazyka*, Moscow, 1940, IV, p. 37.

In fact, however, most of this self-criticism is criticism from above rather than from below, that is, it emanates from the higher administrative echelons, especially those of the Party, and is directed at lower echelons of government and economic agencies. Practical as this type of criticism is for the ruling Party, it hardly fulfills expectations based on frequent ideological references to mass participation in the critical process. To meet such expectations as may have been created in this respect, and to facilitate the process of control by supervisory agencies, the Party permits and indeed encourages a significant amount of popular exposure and criticism of defects in the functioning of Soviet institutions and personnel. The main channel provided for the expression of this criticism "from below" is in the critical letters to the editors of the Soviet press.

A sample of 270 such "critical" letters to the editors of the Soviet press were subjected to intensive content analysis. The letters which constitute our sample were drawn from eight different Soviet newspapers. To secure some degree of representativeness for the Soviet press as a whole these newspapers were selected from a variety of geographical, economic, and cultural regions. Thus, *Pravda* and *Izvestiya* are All-Union newspapers serving the entire nation, the one being the central Party organ and the other the official newspaper of the federal government. *Sovetskaya Belorussiya*, serving the White Russian Republic in the West; *Turkmenkaya Iskra*, the central paper of the small Turkmen republic of Central Asia; and *Bakinskii Rabochii*, serving the Azerbaidzhan Republic of the Caucasus, are republic level newspapers. *Krasnoye Znamya*, central paper for the Maritime Provinces representing the Far East, and *Moskovskii Bolshevik* representing the Moscow region, are primarily regional newspapers. *Vechernyaya Moskva* is predominantly a city newspaper serving the city of Moscow. The sample does not represent a cross section of the entire Soviet press, however, since the smaller and more local newspapers are completely unrepresented, a regrettable but unavoidable situation since such local papers are not available in the United States except in scattered copies. The sample is also unrepre-

sentative in that all of the newspapers are in Russian, even those coming from areas in which the predominant language is not Russian. It appears, however, that the gross features of critical letters in the native language press are very similar to those in Russian language newspapers on comparable territorial levels.

From each of these newspapers thirty critical letters to the editor were selected. The method of selection was to begin in each case with the issue for December 31, 1947, inspect each preceding issue in turn, and use every critical letter which appeared until thirty letters for each paper had been obtained. The year 1947 was chosen at the time the study was initiated (1948), but may be regarded as one approaching some degree of postwar normality. In the case of *Vechernyaya Moskva* thirty additional letters were also selected by starting with the January 1 issue, the purpose being to collect a comparable sample for a different part of the year from a single newspaper, to determine in this one case if the time of the year significantly changed the major topics of complaint. This proved not to be the case, and since in most respects the letters in that batch were comparable with the sample as a whole, these thirty letters were also added to our sample, giving a total of 270 letters from nine newspaper units.

Each letter was scored on a detailed schedule with two major analytic divisions: the explicit topical content of the letters on the one hand, and the characteristics of letter writers, criticized targets, and relationships between them on the other. The discussion which follows analyzes primarily the areas and modes of complaint; findings relevant to the social characteristics of the letter writers, the agencies and persons criticized, and their status and power relationships will be presented in a subsequent issue of this *Review*.

*Differences between Newspapers.* Before turning to the content of the letters, brief consideration of certain gross differences among the newspapers in the frequency of appearance, the average length, and the degree of dispersion in the geographical origins of critical letters may help to illuminate the role played by letters-to-the-editor in the Soviet newspaper system.

In order to obtain a total of 30 letters from each of the four types of newspaper, city, regional, republican, and all-union, it was necessary to inspect an average of 55, 71, 82, and 132 issues, respectively. In terms of approximate daily frequencies, this means that critical letters were found in the local *Vechernyaya Moskva* every other day, and in the central *Pravda* and *Izvestiya* only every fourth day. One would be inclined tentatively to conclude from this pattern that the importance of letters-to-the-editor gradually diminishes as the papers increase in scope of coverage. The length of the letters, however, must also be considered before arriving at such a conclusion. The mean length in lines of the letters appearing in the central newspapers is 45, and in the republican, regional, and city newspaper are 39, 27, and 26, respectively. Therefore, it appears the total amount of *space* devoted to *samokritika* letters is relatively constant for the different types of newspaper in our sample, despite variations in the frequency with which letters are printed.

A second differentiation between newspaper types may be made in terms of the distances from the letters' point of origin to the newspaper's place of publication. Most letters in the city newspaper appeared to originate in Moscow itself, whereas, for example, those printed in *Krasnoye Znamya* and *Sovetskaya Belorussiya* came from as far as 300 miles and showed a median distance from Vladivostok and Minsk of 15 and 25 miles respectively. The median distance from Moscow for the 27 *Pravda* letters where a geographic place name was indicated, was 400 miles (arithmetic mean 590); and 600 miles (arithmetic mean 600) for 25 comparable letters appearing in *Izvestiya*. Some of the letters appearing in these central papers came from points as far as 2,000 miles from Moscow. This finding emphasizes an essential aspect of the Soviet press structure, namely, the servicing by different types of newspaper of corresponding special and precisely delineated geographical areas, and is especially noteworthy in the case of the widely distributed central papers which serve the entire Soviet Union.

*Mode of Communication.* In keeping with Party instructions and the established pattern for Soviet letters to the editor, the

majority of the letters in our sample were concise and businesslike (*delovoi*). The range in the number of printed column lines was from 4 to 128 lines, the mean 36 and the median 28 lines. Since the average column line in Soviet newspapers has approximately 5 words, the length of the average letter was 180 words, and of the median letter only 140 words. We cannot know, of course, whether Soviet citizens have adopted the pattern of writing such short letters, or whether the length of the letters as they actually appear is largely determined by the decisions of the newspaper editors. Descriptions given in Soviet sources of the letter handling methods in a variety of newspaper offices give at least some support to the latter explanation.<sup>4</sup>

*Distribution of Areas of Complaint: General.* Despite the range of discrete subject matter with which the critical letters dealt, it was soon apparent that they were restricted to purely domestic matters which fell naturally into two broad groups corresponding roughly to the division between consumer functions on the one hand, and production and distribution functions on the other. In the consumer area of complaint, the foci of attention of the writer could be further divided into the sub-categories of consumer goods and services, communal facilities, housing, and personal rights. In the production area, the focus of attention is directly on some aspect of the basic production-distribution process itself, that is, economic processes and functions. Clearly then, these are complaints and criticisms dealing with the basic, routine processes of everyday life; the letters do not touch on matters of domestic or international political controversy or on basic policies and actions of the regime, and, of course, should never be confused with literary or artistic criticism.<sup>5</sup>

<sup>4</sup> *Pravda*, November 18, 1949, p. 3; V. Bekker "Registratory Pisem," *Bolshevistskaya Pechat*, No. 13, August 1938, p. 18.

<sup>5</sup> The letters appearing in the letters-to-the-editor columns are not exclusively of the criticism-complaint variety. Interspersed among the more than 750 newspaper issues examined, and in addition to the 270 critical letters in our sample, there were 16 letters of a special type which are not treated in this article. Of these, 15 were purely "complimentary" letters where the writer described good work or positive accomplishments, and praised

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The gross pattern of our sample is clear: 183 letters, 68 per cent of the total of 270, deal entirely with consumer, daily life areas of complaint; 76 deal entirely with production areas; and 11 deal with both. But the mean length of the consumer area letters is only 27 lines, while the mean for the production type is 49 lines. This pronounced difference in length between the two types is certainly in part due to the greater complexity of much of the material contained in the production area letters, but perhaps also reflects the greater concern of the editors for full treatment of production problems. Nevertheless, approximately 56 per cent of the total newspaper space allocated to the publication of letters in our sample is occupied by the consumer complaint type of letter. Thus, it is clear that in terms of both total number of letters appearing and total space allocated, more attention is devoted to the consumer type complaints, which is in evident contrast to the great mass of production discussions and reports preponderating in other sections of Soviet newspapers. This is a fact which should be borne in mind in assessing the role of Soviet newspapers as an instrument of Soviet policy, particularly since it is frequently assumed that the Soviet press is exclusively devoted to the production and political problems so crucial to the central goals of the regime.

In this connection, a new pattern emerges with the investigation of differences between the types of newspapers. Of the letters appearing in the city newspaper, *Vechernyaya Moskva*, 90 per cent dealt exclusively with consumer area topics, whereas in the case of the regional papers it is 80 per cent (48/60), the republican papers 58 per cent (52/90), and in *Pravda* and *Izvestiya* the percentage of exclusively consumer area letters was only 48 (29/60). This positive correspondence between the status of the

newspaper and the frequency of appearance of production type critical letters, when taken in conjunction with their greater average length, gives some evidence of the importance attached to this type of letter. The same facts serve to highlight a basic difference in the assigned function of newspapers at the various territorial levels, and in their probable impact on readers. The greater proportion of attention given to the more personalized consumer problems and complaints in the local area press contrasts with the emphasis on political issues and economic matters in the more central Soviet agitation and propaganda media. The more local his newspaper, therefore, the more likely that the Soviet citizen will find in it some relief from the imperative tone of major communications from the center.

*Pattern within Areas: Consumer Area.* It will be seen from Table 1 that within the area of complaint we have called the consumer type, one-half of the letters (97/194)<sup>6</sup> contain criticism of general communal and cultural facilities. Thus, the letters foster an image of an ostensibly extremely community-conscious citizenry, devoted to community safety, convenience, and civic improvement. Writers point with great frequency to such matters as the lack of street signs, to irregular autobus schedules, lack of playground space for children, and even to the absence of flowers in the city parks.

About 29 per cent (57/194) of the consumer type letters discussed problems falling into the sub-area of consumer goods and services. It is significant, however, that the consumer goods mentioned most frequently were those which for the Soviet Union could be classified as luxury items—smoking tobacco, radio parts, and phonograph records, or knick-knacks such as needle threaders, colored pencils, and postcards. In fact, food and clothing, the basic articles of consumer consumption, were topics in only ten letters, and were equalled in number by the ten letters complaining about the unsatisfactory service in restaurants, stores, and repair shops. Although the variety of goods mentioned is indeed wide and includes such necessities as soap, furniture, school textbooks, and razor blades, the complaints are

rather than criticized. The single letter which constituted a unique category and actually entered into the field of political polemics was one appearing on page two of *Pravda*, November 3, 1947, supposedly written by a group of workers from a Moscow factory who "indignantly" tell a dramatic tale of a shabbily dressed man who was photographing their factory and who, when apprehended, "proved to be none other than General Hilton, Chief British Military Attache in Moscow."

<sup>6</sup> See footnote † of Table 1 for an explanation of the 194 letter total.

directed almost as much against the unsatisfactory quality as against the total unavailability of the items, thus obscuring the impression of an economy of consumer goods shortages.

Nevertheless, the mere fact that such matters are dealt with at all in the local and

measures,<sup>7</sup> such letters may be said to constitute in fact a concrete expression of Soviet consumer demand.

The complaints directed at the housing situation, mentioned by 19 per cent (37/194) of the letters falling into the consumer area, concerned not only the un-

TABLE 1. DISTRIBUTION OF COMPLAINTS IN CRITICAL LETTERS TO THE SOVIET PRESS: "CONSUMER" AREA LETTERS, BY SUB-AREA AND TYPE OF COMPLAINT

Sub-areas of Complaint	Specific Type of Complaint					Totals	
	Availability	Quality	Upkeep Repair	Misappropriation (Theft, Overcharging)	Other	I † Number of Complaints by Sub-area	III ‡ Letters Mentioning each Sub-area
Communal and Cultural Facilities	48*	36	33	12	5	134	97
Consumer Goods and Services	32	28	3	6	1	70	57
Housing and Office Space	10	10	20	8	1	49	37
Personal Rights	6	1	2	11	0	20	17
Other Sub-areas	1	2	3	3	2	11	7
Total II † Specific Types of Complaint	97	77	61	40	9	284	215

\* The scores in the body of the table refer to separate references rather than to letters. Each letter was scored for every reference it contained, which was frequently more than one. Thus, the same letter may refer to one or more sub-areas and to one or more specific types of complaint in the same sub-area(s).

† Total columns I and II refer to the total number of references to specific types of complaints; that is, the sum of the scores in the boxes of the body of the table. Total I gives the number of specific complaints within each specified sub-area; total II refers to specific types of complaint irrespective of the particular sub-area in which they fell.

‡ Total column III refers to the number of letters mentioning each different sub-area. Total number of letters containing references to this general area of consumer complaint is 194; 183 devoted exclusively to consumer type complaints, and 11 which also discussed production problems. The grand total of 215 given for column III results from the fact that some of the 194 letters dealt with more than one sub-area.

national press could be interpreted as corroboration of our knowledge of the consumer good scarcity aspect of Soviet living conditions. One can only speculate on the total number and content of letters on this particular topic which are never printed in the newspaper columns. Since provision is made for forwarding letters to the responsible agencies or persons criticized, and they are expected to take the necessary corrective

availability and inferior quality of housing, which most sources agree constitute significant foci of dissatisfaction in the contemporary U.S.S.R., but rather, perhaps in resigned fashion, were devoted in 20 of the total of 49 housing complaints to the question of upkeep and repair of existing

<sup>7</sup> K. Gybin, "Rabota Pismami v Redaktsiyu," *Partiinaya Zhizn*, No. 16, August 1947, p. 39.

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structures. The roofs leak, water is not provided, and some unfortunate souls in Baku wrote a letter pointing out that since the stairway to the second floor had collapsed it was difficult for them to get into their second floor apartment.

The sub-area of personal rights involved a wide variety of affairs. For example, there were two cases of the refusal of a shopkeeper to hand over the store's "complaint book" to a dissatisfied customer, one letter written by an aged and infirm doctor entitled to a pension but who had not received it, and one letter dealing with failure to provide war veterans with the preferential treatment in the allocation of housing space to which they legally were entitled.

There are no striking differences between the newspapers in regard to the distribution of complaints among the sub-areas within the general realm of consumer type complaints. Complaints about the housing situation, for example, are found in much the same ratio to the total number of consumer type complaints in all four types of newspaper. One cannot say whether this pattern represents a quota system of some kind which the editors follow in the selection of letters for publication, or whether it results from the similarity of the actual types of deprivations suffered and complained about by Soviet citizens throughout the country.

*Production Area.* Analysis of the production type complaints involved an initial survey of the content of the letters to determine which of the various sectors of the national economy was concerned in the criticism. Of the 87 letters in this area,<sup>8</sup> 38 contained criticism of processes falling within the broad category of industry, 31 in agriculture, 17 in extraction, 17 in trade and communications, 12 in cooperatives and trade net, and 5 letters were directed against such miscellaneous activities as the conduct of scientific experimentation and the work of film studios. The distribution of attention in these letters among the various sectors of the economy roughly approximates the

proportions characterizing the distribution of the labor force, with the exception of agricultural workers, estimated as working in the corresponding sectors of the economy at the time. In this sense, the distribution of attention may be said to correspond to the relative importance attached to these constituent segments of the economic system.

In addition to scoring the production letters according to the sector of the economy involved, the content of the entire group of 87 production letters was classified by sub-area representing basic components of the productive process—personnel, raw materials, equipment, and technical resources. Within these sub-areas specific complaint categories similar to those used in the case of the consumer area letters were utilized, with the results shown in Table 2. Attention was focussed on equipment difficulties in 51 per cent (44/87) of the letters, and of the total of 52 specific complaints in this sub-area, almost one half (24/52) concerned the utilization and maintenance of such equipment as tractors, oil pumps, and railroad freight cars. The next most frequently discussed sub-area of complaint, raw materials, was treated in 35 letters and accounted for a total of 49 complaints, in which the related problems of non-availability (20) and utilization and maintenance (17) received the bulk of the attention. It is of some interest to find this evidence, which supports the widely held opinion that these particular problems are endemic and important bottlenecks in the Soviet planned economic system. Criticism directed to the personnel problem and miscellaneous "technical resources," such as industrial pricing lists and special education courses on "accounting for planners," proved to be markedly less frequent.

In contrast to the case of consumer area letters, there are differences between newspapers in the content of their production letters. This difference stems from the direct correspondence between the major type of economic activity in and around the place of issue of particular newspapers, and the frequency with which letters appear which are devoted to that particular sector of the economy. For example, the "Baku Worker," published in the center of the Soviet oil extraction territory, devoted the greater part of its production area letters to problems of

<sup>8</sup> As noted above there were 76 letters exclusively devoted to production problems. For analysis in this section the 11 letters devoted to both production and consumption were included, to yield the total of 87 letters.

oil extraction and the production of oil extraction machinery.

As a concluding comment here, it must be said that one reads the production area letters with the feeling that they correspond more closely to the known and significant realities of Soviet life than do many of the consumer area letters. But this is true only in that they deal with production processes from the point of view of the regime. Just as in the case of the consumer area letters, where there is no mention of real deprivation of personal liberty or political freedom, so in the production letters there is a notable

screened out by the editors. *Samokritika* in the form of letters-to-the-editors, therefore, does not constitute a breach of the strong controls on free expression in contemporary Soviet society. Expression of criticism is at best free and spontaneous only within narrowly defined limits.

*Social Legitimation.* In the content analysis of public correspondence, especially when the letters are predominantly concerned with complaints as is the case in our sample, it is important to analyze the mode of social legitimation utilized by the letter writers to lend support to their complaints or pleas

TABLE 2. DISTRIBUTION OF COMPLAINTS IN CRITICAL LETTERS TO THE SOVIET PRESS: "PRODUCTION" AREA LETTERS, BY SUB-AREA AND TYPE OF COMPLAINT

Sub-areas of Complaint	Specific Type of Complaint					Totals	
	Availability	Quality	Utilization Maintenance	Misappropriation	Other	I Number of Complaints by Sub-area	III Letters Mentioning each Sub-area
Equipment	16	8	24	1	3	52	44
Raw Materials	20	5	17	6	1	49	35
Personnel	7	9	5	2	1	24	18
Technical							
Resources	4	1	10	2	0	17	13
Other	9	5	3	2	6	25	20
Total II Specific Types of Complaint	56	28	59	13	11	167	130*

\* The total number of letters containing references to the production area of complaint was 87, which yielded 130 sub-area letter-references because of multiple scoring. For additional explanation of the structure of this table see notes to Table 1.

absence of complaints about the unpopular labor discipline laws, the burden of the norm system, and other aspects of daily work life in its effect on the individual. Independent evidence from former Soviet citizens, of course, points to a large pool of dissatisfaction in this regard.

Thus, we see that Soviet citizens can write to their newspapers about a wide variety of topics on which criticism is permitted and encouraged, and can expect to have those letters published. But, knowing the realities of the system in which they live, they apparently do not deal with proscribed topics such as those mentioned above, or if they do their letters are effectively

for redress of grievances. Given the nature of Soviet society, we assumed that this legitimation would be based primarily on references to the ideological structure on which the Soviet system purports to rest, and to the "hallowed" name of Stalin. It became rapidly apparent that this was in fact not the case.

One of the most striking general characteristics of the letters is the relative absence of ideological references, a fact which distinguishes them from the general flow of Soviet mass communication materials. Of those examined, 230, or 85 per cent of the total, did not contain a single ideological reference, and only 14, or less than 6 per

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cent, contained two or more such references. The importance of this finding is heightened by the fact that in the coding the broadest interpretation was put on the category "ideological reference," so as to include not only mentions of Marxism-Leninism-Stalinism and its specific doctrines and dogmas, but also such general phenomena as references to the building of socialism, the leadership and guidance of the Party, the superiority of the Soviet Union over the West, the "solicitude" of the Soviet regime for its population, and the like.

Even more striking is the almost complete absence of any mention of Stalin, since his name appeared only casually in two or three of the letters examined. This stamps them as a distinctive segment of Soviet mass communications messages. Those at all familiar with the amazing diffusion of references to Stalin in the Soviet press will recognize that it is unlikely that this record could be matched by a sampling of any other general body of mass-communication material on Soviet internal life which included almost ten thousand lines or about sixty-five columns of printed material from Soviet sources.

This relative scarcity of ideological references is perhaps in accord with the expectation that the letters will be concise and businesslike, yet the entire Soviet press is expected to have this quality and this hardly prevents the proliferation of ideological references and the profusion of mentions of Stalin. These facts, therefore, lend some support to the assumption that the average letter is indeed written by someone other than assigned quasi-official or professional letter writers, and constitutes at least partial evidence of the fact that the newspaper editors do not excessively re-write or tamper with the letters during the editing process.

The absence of ideological references as a basis for legitimation of the complaints made in the letters suggested we turn next to the nearest Soviet equivalent, namely, legitimation on the basis of law. In the case of Soviet society it is necessary to define law in a broader sense than is commonly used in the West, since both in principle and fact not only the decrees of the government but the decisions of the Party have the force of law. In addition, the law itself extends beyond statutes *per se* to phe-

nomena such as requirements under the Plan and centrally set work and fiscal norms which also have the force of law in varying degree. Each letter was therefore scored for mentions of such legal norms, and in the cases where such mention occurred, the specific type of norm was further categorized.

In 47, or about 17 per cent of the letters, reference was made by the critic to some legal norm in the sense of the term as used by us, and these letters included references to a total of 56 such norms. Decisions and decrees of all All-Union and republic governments accounted for 17 references; regional, district, and city governments, 13; the central and local Party organs, 10; the Five-Year Plan and its subsidiary plans, 5; and scattered miscellaneous legal norms, 11 references. Thus it can be seen that Party decisions, although relatively heavily cited, were by no means the predominant source of legitimation when legal norms were mentioned, which is consistent with our finding concerning the relative absence of ideological references.

Letters exclusively concerned with production problems accounted for the same number of references to legal norms as did those exclusively concerned with non-production problems, which means that the production letters accounted for a disproportionate share of the total—the ratios of references to letters being 1:2.6 for production letters and 1:6.5 for consumer complaint letters. This is perhaps to be expected, but it certainly shows a greater ability or propensity for those writing about occupational problems and organizational relations to cite supporting legal norms than is true of those writing as ordinary citizens to complain about consumers goods and services or communal and cultural facilities. In general, then, although reference to Soviet legal norms played some role as a justification for the complaints made, it hardly appears to be a significant and truly characteristic mode of legitimation for the sample as a whole.

Fortunately we had available still another measure of the type of social legitimation utilized by the letter writers, and it proved to be the most distinctive. Each letter was rated as to whether the writer based the complaint exclusively on his own rights or interests in the matter concerned, or whether

he sought to strengthen his plea by the involvement of a larger social group. It is rather striking that 228 letters, or 84 per cent of the total, fell in the category of those letters in which the legitimation was "group based," whereas only 33, or 12 per cent, were exclusively self-based complaints, the remaining nine letters being cases without any evidence of efforts at legitimation which could be scored by the system used.

It is necessary here to add the reservation that the category of "group based" complaint was so broadly defined that the group referent could range from all the other tenants in an apartment, through all persons in a given class or citizens in a given community, to the entirety of Soviet society. The category also included all cases in which the group legitimation was implicit as well as explicit.<sup>9</sup> Nevertheless, it is striking to find this degree of group based legitimation, in contrast to individual or self-oriented legitimation. One cannot state with confidence whether this is a result of an actual value orientation on the part of Soviet letter writers, or merely a deliberate phrasing of the letter in terms which are known to be most acceptable to the editors of Soviet newspapers. In either event, the results obtained suggest the value of comparative study of comparable complaint letters from the communications media of other societies, focussed on variables such as the differential use of self as against group based legitimation as indices of national group differences in cultural orientation.

*Indications of Personal Involvement.* Closely connected with the notion of "legitimation," as discussed above, is a consideration of the degree of "involvement" of the letter writer with the topical area of the letter. This formulation of the problem led to the development of a series of separate indices based on the ratings of the analysts.

The first of these was a rating of the degree of *role* involvement of the writer. Three degrees of role involvement were distinguished. Primary involvement was scored for activities related to one's occupation, to family obligations, and to the acquisition and consumption of items of prime need

such as food, clothing, and shelter; secondary involvement, for activities related to participation as a citizen in the local community; and tertiary role involvement, for activities related to the writer's membership in the larger social community or as a citizen of the national state. Results here showed that in 100 cases the complaint involved the primary roles of the writer, whereas secondary roles accounted for 138, and tertiary only 32. Thus, although local community roles involved more writers than did primary roles, in only 12 per cent (32/270) of the letters was the writer's involvement more remote from his immediate interests than his family, job, and local community. This is an additional reflection of the already noted marked absence in Soviet letters of

TABLE 3. DISTRIBUTION OF CRITICAL LETTERS TO THE SOVIET PRESS BY TYPE OF DEPRIVATION CITED

Type of Deprivation	Frequency	Per Cent
1. Comfort-convenience	101	38
2. Cooperation of others	69	26
3. Recreational-cultural opportunities	56	21
4. Income	31	12
5. Status	3	01
6. Other	5	02
Total	265	100

the discussion of broader policies and issues involving the society as a whole so characteristic of letters to the editor printed in the larger American newspapers.

Another measure of the involvement of the writer consisted of a rating in terms of the specific type of *deprivation* suffered, the results of which are indicated in Table 3. There were 38 letters scored as "no personal deprivation experienced by the writer," leaving 232 letters which, since double entries were recorded, contained a total of 265 instances of reported deprivation. It will be seen that categories 1 and 3 accounted together for more than 59 per cent of the total number of instances of *actual* deprivations cited or clearly implied. These cases were predominantly those concerned with complaints about consumer goods and communal services. Deprivation in the form of loss of the proper cooperation from others as a factor affecting fulfillment of one's own occupational responsibilities accounted for

<sup>9</sup> An effort was made to distinguish explicit from implicit group legitimation, but unfortunately no coding reliability could be obtained.

almost one fourth of the total, and when taken with the one letter in every nine which concerned loss of income, certainly attests to the very real meaning for the writer which at least some of these letters must be assumed to have. Of the three cases in which deprivation consisted of loss of status, two involved unjust dismissal, and the third the diversion of agricultural scientists from research to teaching at lower levels. References to deprivation of freedom, liberty, and justice were again noticeably absent, which serves to emphasize the restriction of areas in which grievances may be publicly aired.

As an additional measure, a count was made of the indicated number of actions reportedly taken by writers to obtain redress of complaints, through other measures, prior to writing the *samokritika* letter. In 54 cases, 20 per cent of the total, there was some kind of prior attempt to obtain satisfaction, usually involving personal or written pleas sent by the writer directly to the organizations or persons seen as responsible for the deprivation. In fact, in 22 of these 54 cases, the letter writer reported four or more such unsuccessful prior efforts to obtain redress of grievances.

A final rating system was designed to assess the severity of the deprivation suffered by the writer on the basis of the general tone and content of the letter. As might be expected, there was a clear relation between the degree of injury or difficulty apparently suffered by the writer and the number of previous actions he claimed to have taken to remedy the situation in some other way.

Based on consideration of the style and tone of the letters, the content and diversity of complaint reported, the congruence between the complaint patterns and the known facts about Soviet society, and the relative absence of ideological content, we conclude that the majority of the critical letters to the editor of the Soviet press are relatively spontaneous communications from ordinary Soviet citizens. The letters are clearly restricted within very narrowly defined limits. Thus, the type of consumer complaint recorded tends in significant degree to obscure the full measure of consumer goods shortages and defects; the production area letters

make no mention of the known hardships and deprivations of freedom suffered by the labor force in Soviet industry; and there is a complete absence of discussion of broader national policy on the domestic and international level. Yet the allegation of personal deprivation brought forth by the letters, and the fact that in many cases there are expressions of strong indignation, point to the conclusion that for many of the letter writers—and vicariously for the readers—the letters to the editor may serve as a channel for airing personal grievances. To the degree that this serves to release tensions generated by the realities of everyday Soviet life, the *samokritika* letters may be said to serve an important function in facilitating the rule of a regime which finds it extraordinarily dangerous to permit the relatively free expression of affect concerning many aspects of the functioning of the existing social system.

At the same time, of course, the regime seeks by this means to deflect hostility against the executors rather than the determiners of policy, and gains at the same time an additional lever of control over the sprawling bureaucracy. It is of particular importance, in this connection, to recognize that the regime goes to some pains to emphasize that critical letters to the editor do bring results. Thus, the letters to the editor columns regularly carry notices reporting on the action taken on earlier complaint letters. For example, on November 25, 1947, the following notice appeared on page 3 of *Turkmenkaya Iskra*:

A letter appeared in *Turkmenkaya Iskra* in which it was reported that Bagdasarov, the Chairman of the Orgburo of the Ashkhabad artel, Pishchevik, of the Turkmenkoopinsoyuz, refused to accept invalids of the Patriotic War for employment. But he places his own acquaintances and friends everywhere. Bagdasarov does not consult with members of the Orgburo; rather, he does everything independently. The artel works extremely badly. In response to our interrogation, the assistant chairman of the Presidium of Turkmenkoopinsoyuz, Comrade Romanovich, has informed the editors that these facts were verified. Bagdasarov was released from his post in the artel.

## THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY IN THE STUDY OF JUVENILE DELINQUENTS \*

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THE results of one phase of a longitudinal study of some 4000 young adolescents will be presented in this paper.<sup>1</sup>

Early in 1947 the authors designed a project intended to obviate some of the difficulties found in research studies undertaken to reveal how adjusted and maladjusted persons differ in personality characteristics. In general the majority of such studies have tended to relate the background of the deviant or the maladjusted to the personal or behavioral difficulty after his maladjustment has occurred. Thus, much of what is known about the factors supposedly indicative of probable maladjustment is derived from a reconstruction of the developmental histories of deviant persons only. The reliability of such reconstructions is dependent upon a variety of circumstances beyond the control of the investigator and may in part be responsible for the indifferent results achieved when such reconstructed personality and social patterns assumed to be characteristic of deviants are employed to predict the behavior of others believed to be similar to such known deviants.<sup>2</sup> In view of this it seemed desirable to collect data on the personality and social characteristics of a large group of children most of whom had not as yet manifested gross personality or behavioral

disorders. Further, in order to keep at a minimum problems of interpretation and classification of data, it was decided to employ a personality inventory of known reliability and validity to collect personality data. The Minnesota Multiphasic Personality Inventory (MMPI)<sup>3</sup> was the instrument chosen. This decision rested on the fact that the published results of research in which the MMPI had been employed suggested that several of the clinical scales contained within it discriminated significantly between male and female delinquents.<sup>4</sup> A further consideration favoring the use of the MMPI centered on the fact that it could be easily and inexpensively administered to a large sample of children without unduly disrupting a school day routine.

The choice of the population to be studied posed some difficult problems. At first it seemed desirable to concentrate upon one single age group, but the administrative difficulties posed by such a choice were believed to outweigh the advantages to be gained. The inappropriateness of some of the items of the MMPI for very young children suggested the choice of a senior high school population; however, the rather abrupt rise in the incidence of juvenile delinquency at approximately the age of 14 years tended

\* Paper read at the annual meeting of the American Sociological Society, September 3-5, 1952. This study was made possible by the financial support granted the authors by the Graduate School of the University of Minnesota.

<sup>1</sup> The design of the project described in this paper was first reported in Starke R. Hathaway and Elio D. Monachesi, "The Prediction of Juvenile Delinquency Using the Minnesota Multiphasic Personality Inventory," *The American Journal of Psychiatry*, Vol. 108 (1951), pp. 469-473. Some of the more general results of the study are also reported in this article.

<sup>2</sup> See Lloyd E. Ohlin and Otis Dudley Duncan, "The Efficiency of Prediction in Criminology," *The American Journal of Sociology*, 54 (March, 1949), pp. 441-451.

<sup>3</sup> By Starke R. Hathaway and J. Charnley McKinley. Published by the Psychological Corporation, New York.

<sup>4</sup> Dora F. Capwell, "Personality Patterns of Adolescent Girls: II. Delinquents and Non-delinquents," *Journal of Applied Psychology*, 29 (August, 1945), pp. 289-297. Elio D. Monachesi, "Some Personality Characteristics of Delinquents and Non-delinquents," *Journal of Criminal Law and Criminology*, 38 (January-February, 1948), pp. 487-500. "Personality Characteristics and Socio-Economic Status of Delinquents and Non-delinquents," *Journal of Criminal Law and Criminology*, 40 (January-February, 1950), pp. 570-583. "Personality Characteristics of Institutionalized and Non-Institutionalized Male Delinquents," *Journal of Criminal Law and Criminology*, 41 (July-August, 1950), pp. 167-179.

to dictate the choice of a younger age group. It was finally decided to study the ninth grade, and so the ninth grade school children of the public schools of the city of Minneapolis constitute the population of this study.

The MMPI is scored for eight scales that generally refer to the eight more commonly observed clinical syndromes.<sup>5</sup> These scales measure the similarity, in response to the MMPI items, of the tested subjects to persons clinically diagnosed as afflicted with the emotional and personality disorders suggested by the following scale names: hypochondriasis, (Hs)<sup>6</sup>; depression (D); hysteria (Hy); psychopathic deviate (Pd); paranoia (Pa); psychasthenia (Pt); schizophrenia (Sc); hypomania (Ma). Scales for measuring social introversion (Sie), masculinity-femininity interests (Mf), are also contained within the Inventory. Four other scales, three of which make possible gauging the validity of the record and one which is essentially a correction employed to sharpen the discriminatory capacity of five clinical scales (Hs, Pd, Pt, Sc, Ma), are also available. The three validating scales are a question score ("P") consisting of the number of items left unanswered; the L scale designed to measure the degree to which the person falsified his responses in order to place himself in a more favorable position; and an F scale which indicates how careless and uncooperative the subject was in answering the items in the MMPI. The K score, which, as indicated, is employed as a correction, is intended to reveal the degree to which the subject was either overly defensive and evasive or overly self-critical. Elevated scores on either the F and L scales, or on both, cast doubt upon the validity of the entire MMPI record.

The total registration in the ninth grade of the Minneapolis public schools was 4,572 pupils for the year 1947-1948. The testing, which was done by use of the booklet group form of the MMPI containing 550 items,

was begun in late 1947 and finished in May, 1948. The number of usable and complete answer sheets produced by this testing program was 4,046. One school refused to cooperate because of objections raised to several items that deal with sexual matters, and 241 pupils were thus lost. Others were lost because of absence from school the day the test was administered, and still others were unavailable because they had dropped out of school during the year. Although every attempt was made to get as many of the ninth grade pupils as possible, data on only 88.5 per cent of the official ninth grade registration became available. The group includes 1994 boys and 2052 girls.

In January, 1950, an investigation was begun to determine what pupils in the sample had had contact with the Hennepin County Probation Office, the Hennepin County Juvenile Court, and the Juvenile Division of the Minneapolis Police Department. The investigation terminated on July 1, 1950. The search of the records of these official agencies revealed that 597 of the pupils in the sample had been known to the court, the police, or to both. Of this total 442 were boys and 155 were girls, and approximately one half of the children in each group were court cases. It was found therefore that 22.2 per cent of the boys and 7.6 per cent of the girls had acquired a record with the police, the court, or with both.

Data which indicate how delinquents (referring at this point only to the fact that children so labelled had had contact with the official agencies) differ from non-delinquents are presented in Tables 1 and 2. The data presented in these tables compare the two groups on scale high points in the MMPI profiles. As will be noted, not all of the MMPI scales discriminate adequately between delinquents and non-delinquents. It appears that boys (Table 1) whose Pd, Pa and Ma scale scores constitute the high points in their profiles are delinquent in greater number than those who have other high points in the profiles. Thus approximately one-fourth (25.4 per cent) of the boys whose profiles contained the Pa scale as the high point were delinquent. Profiles of boys with the Pd scale as the high point were delinquents in 27.7 per cent of the cases. Slightly more than one in three (34.4 per cent) boys with profiles in which the

<sup>5</sup> For literature on the way the MMPI was developed and standardized, as well as for information regarding the way scores are interpreted the reader is referred to Starke R. Hathaway and J. Charnley McKinley, *Minnesota Multiphasic Personality Inventory Manual*, New York: The Psychological Corporation, Revised edition, 1951.

<sup>6</sup> Abbreviations of scale names will be used throughout the remainder of this paper.

Ma and Pd scales constitute the high points were found delinquent. The association of delinquency with the hypomania and psychopathic deviate syndromes becomes especially marked in cases with standard scores of 70 or more on the Ma and Pd scales. Of all the boys who made scores of 70 or more on the Pd scale 36.0 per cent were delinquent. Among those boys with such high scores on the Ma and/or Pd scales 42.1 per

unwillingness to be cooperative and truthful in responding to the MMPI tends to be characteristic of delinquents.

The two profile patterns which yield the smallest number of delinquents are those wherein the Mf scale constitutes the high profile point and the one in which none of the clinical scales go beyond a standard score of 54. (Category labeled "None" in Tables 1 and 2.)

TABLE 1. NUMBER AND PERCENTAGE OF DELINQUENT AND NON-DELINQUENT BOYS WITH SPECIFIC SCALE HIGH POINTS IN THEIR MMPI PROFILES

Scale high point	Number of cases for each scale high point (N=1994)	Number of delinquents with each scale high point (N=442)	Percentage of those with each scale high point having delinquent record
None	45	4	8.9
?	107	21	19.6
Sie	108	14	13.0
Hs	58	8	13.8
D	79	10	12.6
Hy	51	11	21.6
Pd	411	114	27.7
Mf	102	9	8.8
Pa	59	15	25.4
Pt	115	22	19.1
Sc	279	60	21.5
Ma	420	94	22.4
Invalid	160	60	37.5
Ma Pd*	218	75	34.4
Pd Ma			
Pd*** Ma*	126	53	42.1
Pd Ma'			
Ma' Pd			
Ma Pd'			
Pd**	186	67	36.0

\* Totals of these combinations have already been included in the total N.

\*\* Scale abbreviations followed by the symbol prime (') signifies that the standard score on the scale is 70 or more.

cent had acquired a record with one or several official agencies. The evidence would seem therefore to indicate that boys who respond to the MMPI as do the hypomanics and psychopathic deviates have some tendency to behave in a manner which is conducive to bringing them to the attention of law enforcing agencies. None of the other MMPI clinical scales appear to be so closely associated with misconduct.

Of the 160 boys whose profiles were invalid, 60 (37.5 per cent) were delinquent. These findings are in keeping with results obtained in other studies and suggest that

Comparable data on girls, presented in Table 2, reveal trends somewhat similar to those of boys. Again it is the Pd scale alone or in combination with the Ma scale which shows the closest association with delinquency. Further, none of the girls who achieved profiles with no scale scores greater than 54 had acquired a record with the official agencies studied. The same was found to be true of girls where the MMPI profile high point was the Hy scale.

These are some of the more important findings for the sample when profile patterns of children with records and of children

with no such records are contrasted. Other interesting results are found when further analyses are made. It is to these results that we now turn.

Scrutiny of the data collected from the files of the official agencies studied (which included such items of information as the nature of the contact, the nature of the offense, the disposition of the case, the date

theft, grand larceny, shoplifting, gross immorality, accompanied by more than one less serious offense such as petty larceny, immoral conduct, disorderly conduct, malicious destruction of property, curfew violation, truancy, and incorrigibility. In this category were placed children who, on the basis of the available evidence, were judged to be not as seriously delinquent as those placed in category I.

TABLE 2. NUMBER AND PERCENTAGE OF DELINQUENT AND NON-DELINQUENT GIRLS WITH SPECIFIC SCALE HIGH POINTS IN THEIR MMPI PROFILES

Scale high point	Number of cases for each scale high point (N=2052)	Number of delinquents with each scale high point (N=155)	Percentage of those with each scale high point having delinquent record
None	43	0	0.0
?	120	11	9.2
Sie	245	11	4.5
Hs	11	1	9.1
D	15	1	6.7
Hy	57	0	0.0
Pd	381	47	12.3
Mf	346	17	4.9
Pa	136	7	5.1
Pt	85	3	3.5
Sc	157	13	8.3
Ma	350	29	8.3
Invalid	106	15	14.2
Ma Pd*	174	21	12.1
Pd Ma			
Pd** Ma*			
Pd Ma'			
Ma' Pd	88	14	15.9
Ma Pd'			
Pd*	149	33	22.1

\* Totals of these combinations have already been included in the total N.

\*\* Scale abbreviations followed by the symbol prime (') signifies that the standard score on the scale is 70 or more.

of contact, etc.) suggested the desirability of classifying the children into groups on the basis of the type of misconduct in which the children had engaged or were alleged to have engaged. Three categories of misconduct were created for this purpose:

I. Conduct involving repeated offenses such as automobile theft, burglary, grand larceny, hold-up with a gun, shoplifting, gross immoral behavior (girls), accompanied by less serious offenses. Into this category were placed all children considered as having manifested a fairly well established delinquent pattern.

II. Conduct involving the commission of only one serious offense such as automobile

III. Conduct involving the commission of such minor offenses as malicious destruction of property as a result of play activities, smoking, drinking, more than one traffic violation, curfew violation, immoral and disorderly conduct. These behavior manifestations were judged as being relatively non-delinquent in contrast to conduct characterizing the other two categories. A review of the available evidence indicated that the majority of children in this last category came into contact with law enforcing agencies through carelessness, thoughtlessness, and untoward circumstances beyond their control.

No pretense is made that these classificatory categories are rigorous and satis-

factorily reliable. They merely represent an attempt to manipulate for purposes of an initial analysis some of the differences in behavior indicated by an examination of the collected data.

A further division of the delinquent group was made. Delinquent children were classified as to whether they had had contact with the police or court before, after, or both before and after, the MMPI was administered.

As indicated above a total of 442 boys and 155 girls in the sample had acquired some record with law enforcing agencies. The profiles of 60 of these boys were found to be invalid, and 15 of the girls' profiles were also invalid. Children with invalid profiles were excluded from further analyses.

Out of 382 boys with a record, 255 were judged to belong in categories I and II while 127 were placed in category III. One hundred and thirteen of the boys in categories I and II had had contact with the court or police only before the administration of the MMPI, while 108 of the boys in the same categories had such contacts only after the testing program had taken place. Thirty-four boys had contacts with the agencies both before and after the administration of the MMPI. Of the boys placed in category III, 80 had come to the attention of the law enforcing agencies after testing and 47 had become known to these agencies before their MMPI profiles had been acquired.

Eighty girls were judged to belong in groups I and II, and of these 54 had become known to the police or court only after testing and 26 had become known to these agencies only before testing. Of the 36 girls placed in category III, 22 had contact with the law enforcing agencies only before testing and 14 only after testing. None of the groups contained girls who had contacts with the agencies both before and after testing. An additional total of 24 girls for whom valid MMPI profiles were obtained could not be classified into conduct categories since their records failed to specify the nature of their offenses, and further inquiry failed to produce information that would permit classification. This group of girls was therefore excluded from any subsequent analyses.

In order to determine which of the scales

of the MMPI differentiate significantly between the several categories of delinquents and known non-delinquents in the sample the mean standard scores made on the scales of the MMPI by delinquents and by two groups of non-delinquents were compared. The two groups of non-delinquents consist of 200 boys and 200 girls selected so as to constitute random stratified (on the basis of the number of pupils provided by each school) samples of the entire study population. Every effort was made to include in these two groups children known to have had no contact whatsoever with any public agency dealing with delinquents.

Comparisons of the mean standard scores made by the several categories of delinquents and by the non-delinquent groups indicate that several scales of the MMPI differentiated significantly between delinquents and non-delinquents. (Due to time and space limitations only some results suggestive of general trends of the findings will be presented.) It was found that male delinquents in categories I and II, whose contact with the police or court had occurred only before testing, made significantly higher mean standard scores on the F, Pd, Pa and Sc scales than did male non-delinquents. Tests of significance of differences in means on these scales (*t* test) indicated such differences to be significant at the one per cent level of confidence. It was also found that delinquents in these two categories made higher mean standard scores on the Ma scale. This difference was found to be significant at the five per cent level of confidence. Another scale, the Mf, differentiated between the two groups at the five per cent confidence level, and in this instance non-delinquents achieved a higher standard mean score than delinquents. On the basis of these findings it seems reasonable to conclude that male delinquents in categories I and II, whose contact with law enforcing agencies occurred before the administration of the MMPI, are, in their response to the items of the MMPI, significantly more like clinically diagnosed abnormals of the psychopathic deviate, paranoic, schizophrenic, and hypomanic types than are non-delinquents. Male young adolescents who are non-delinquents seem apt to have more feminine interests than do delinquents.

Somewhat different results are discernible

when the mean scores made by male delinquents in groups I and II, whose contacts with the police or court had occurred after, as well as before and after ( $N=142$ ) testing, are contrasted with the mean score made by male non-delinquents. Male delinquents in these categories made significantly greater mean standard scores (at the one per cent level of confidence) on the F, Pd and Ma scales, while non-delinquents made significantly larger mean scores on the D scale (5 per cent level of confidence) and the Mf scale (1 per cent level of confidence).

Only two scales, the Pd and the Sie, were found to differentiate significantly between male children classified in group III, whose contact with the agencies had occurred before testing, and the non-delinquent group. The "relatively" non-delinquent group made significantly higher mean scores (1 per cent level of confidence) on the Pd scale while non-delinquents made higher mean scores on the Sie scale (1 per cent level of confidence). Children in group III whose contact with the police or court had occurred only after the administration of the MMPI were found to be not at all significantly different from the non-delinquents. None of the scales of the MMPI appear capable of differentiating between these groups. It would seem therefore that with only two exceptions male children placed in what has been termed the relatively non-delinquent category do not differ from non-delinquent males in their response to the MMPI.

The results of comparisons of mean standard scores made by girls in the several delinquent categories and those of non-delinquent girls tend in general to suggest that more scales of the MMPI appear capable of differentiating significantly between delinquents and non-delinquents. Female delinquents in categories I and II whose contact with the police or court had taken place after the administration of the MMPI made significantly higher mean scores on the F, Pd, Pa, Sc and Ma scales than did non-delinquent females. All of these differences in mean scores were found significant at the one per cent level of confidence. Non-delinquent girls achieved significantly larger mean standard scores on the L (5 per cent level of confidence) and the K (1 per cent level of confidence) scales than did delinquents.

Girls whose contact with the agencies had occurred only before testing, and who are classified as belonging in categories I and II, achieved significantly greater scores (at least at the 1 per cent level of confidence) on the F, Pd, Mf and Pa scales than did the non-delinquents. Delinquent girls in these categories also made higher mean scores, significant at the 5 per cent level of confidence, on the Sc, Ma and Sie scales. Again it was found that non-delinquent females made significantly higher mean scores on the K (1 per cent level of confidence) scale.

The only scales which appear to differentiate delinquent girls in category III from non-delinquent girls are the K and F scales. Non-delinquent girls make a significantly higher mean score (1 per cent confidence level) on the K scale than do delinquent girls in category III whose contact with law enforcing agencies had occurred only before testing. The delinquent girls in group III whose contact with the agencies occurred only after testing made a higher mean score on the F scale, the difference being significant at the 5 per cent confidence level.

It would seem, on the basis of this evidence, that young female delinquents tend on the whole to be marked by personal and emotional difficulties to a more significant extent than young female non-delinquents. This appears to be true if it may be assumed that scores made on the several scales of the MMPI do reflect personality and emotional difficulties.

This first phase of a more comprehensive longitudinal study has made available data that appear to indicate the practicality of employing a relatively easily administered objective personality inventory in order to identify groups of children in schools likely to come in conflict with law enforcing agencies. It seems presently possible, on the basis of the data available, to indicate that girls in the ninth grade who achieve elevated scores on the F, Pd, Pa, Sc and Ma scales of the MMPI appear more apt to acquire some record with law enforcing agencies than are girls who do not make such scores. The data also suggest that boys who make high scores on the F, Pd and Ma scales, tend to have a greater proclivity for delinquency than do boys who do not attain such scores. In general it would also seem that

children, both female and male, whose MMPI profiles resemble those of patients neurotically depressed, hypochondriacal, or psychasthenic, seem less likely to run afoul of law enforcing agencies than are children whose profiles are similar to psychotic and psychopathic persons.

These findings, it is believed, can be of utility to all agencies, public or private, whose task it is to prevent the outbreak

of serious behavior and personality disorders. The early identification of children who are more prone than others to develop personality and behavior difficulties is a highly important phase of any program designed to prevent if possible, the full development of such difficulties. The findings reported suggest that the MMPI may be employed in the identification of such children.

## SOCIAL CORRELATES OF PSYCHOLOGICAL TYPES OF DELINQUENCY \*

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**D**ISCUSSION in the literature of delinquency frequently centers on the assignment of a priority of psychological and social factors in the etiology of delinquent and criminal behavior. Few research studies however have approached the problem empirically.<sup>1</sup> The present paper is an attempt to isolate social correlates of psychological types of delinquents observed to be prognostic of delinquent recidivism.<sup>2</sup>

The data for the present paper were gathered from the official court records of 1110 white male juvenile delinquent probationers of the Cook County Juvenile Court in 1943 and 1944. On the basis of data in the reports of the psychiatric social workers and the psychiatrists of the Institute for Juvenile Research (IJR), three psychological types of delinquency were isolated: (1) the relatively integrated delinquent; (2) the delinquent with markedly weak ego controls; (3) the delinquent with relatively defective

super-ego controls. The relatively integrated delinquent was so classified by judgments of psychiatric social workers or the IJR psychiatrists. The other two types of delinquents were classified from the judgments of the IJR psychiatrists.<sup>3</sup>

The relatively integrated delinquent is an adolescent with relatively integrated personal controls who in all probability will become a mature independent adult. Delinquents with relatively weak ego controls are generally viewed as highly insecure persons with low self-esteem or as highly aggressive and hostile persons. They usually experience a great deal of internal conflict and exhibit marked anxiety. Delinquents with markedly defective super-ego controls have not internalized the social-conforming controls of

<sup>3</sup> This was made necessary by the fact that not all cases of delinquents were examined by the IJR psychiatrists. Initially each case was seen by a social worker and a judgment made whether the boy required psychiatric examination. In the present sample, almost 54 per cent of the cases were judged to have sufficiently integrated personality and required no further diagnostic examination. Of the 46 per cent of the cases examined by psychiatrists, psychiatric judgment placed 11.7 per cent in the relatively integrated group, 22.1 per cent in the markedly weak-ego controls group and 12.2 per cent in the relatively defective super-ego controls group. For the analysis of the data, the two relatively integrated "groups" were combined when cross-tabulations showed there were no significant differences between them. It is possible psychiatric judgments for all the delinquents in the "relatively integrated" group might place certain of them in the weak-ego or defective super-ego groups.

\* Paper read at the annual meeting of the American Sociological Society held in Chicago, Illinois, September 5-7, 1951.

<sup>1</sup> The work of Eugene Hewitt and R. L. Jenkins, *Fundamental Patterns of Maladjustment: The Dynamics of their Origin*, State of Illinois: Springfield, 1945, and Ruth Topping, "Case Studies of Aggressive Delinquents," *American Journal of Orthopsychiatry*, 11 (1941), pp. 485-92, as well as a number of studies of the correlates of behavior syndromes of delinquents are among the exceptions.

<sup>2</sup> See Albert J. Reiss, Jr., "Delinquency as the Failure of Personal and Social Controls," *American Sociological Review*, 15 (June, 1951), pp. 196-207.

middle class society and experience little sense of guilt over their delinquent acts. Typically they identify with an adolescent delinquent peer culture which rejects these norms.<sup>4</sup>

Theoretically delinquent behavior may be viewed as a function of the nature and strength of both personal and social controls. The social environment then gives both structure to the personal controls and exercises social control over the child in social situations. In the present paper, the primary interest is to isolate social factors which may operate in the formation of personal controls of delinquents. An examination of the social correlates of the three psychological types is therefore undertaken.

The research is not designed to discover the direction of causation since experimental controls were not introduced in making the psychiatric judgments. It seems equally reasonable to assume in some instances that the psychiatrist may have isolated the several types by using the social correlates as a basis of judgment, or that the social environment and the personality structure explain the observed differences among the personality types. The conclusions drawn in this paper are therefore regarded as tentative in the sense that they appear to be most plausible in the light of theory and the nature of the relationships. There follows a discussion of the social correlates of the relatively integrated, defective super-ego and weak ego types of delinquents.

#### COMMUNITY ORIENTATION AND CONTROL

Sociologists have long pointed out the importance of non-conventional neighborhood and community values in orienting the child toward delinquency. Communities in which these values prevail are usually characterized by high delinquency rates and indigenous institutions. Land is generally used for non-

residential as well as residential purposes and residential mobility is high. Our three psychological types are however differentially distributed in such community areas (see Table 1). Delinquents with relatively weak ego controls are found significantly less often in areas of high delinquency and in commercial, industrial, and rooming house areas than are the relatively integrated and defective super-ego types. The defective super-ego type of delinquent is found least often in settled residential areas (47.6 per cent).

A composite rating of the character of each residential area shows that the weak ego type is found least often in poor residential areas and most often in good residential areas.<sup>5</sup> Again the defective super-ego type is found most often in the poor residential areas and least often in good residential areas. The relatively integrated type is observed between these two types and differs significantly from both (see Table 1).

The residential mobility of the delinquents was also examined. Families of delinquents with weak ego controls are significantly more often residentially mobile than the families of the relatively integrated type, while the families of delinquents with defective super-ego controls differ significantly from neither. This suggests that although families of delinquents with weak ego controls usually reside in good, settled residential areas, they frequently are not stable members of these communities.

#### INSTITUTIONAL ORIENTATION AND CONTROL

A major institution of the community exercising social control over the child is the school. At the same time, the school affects the formation of personal controls insofar as its personnel represent acceptable models of authority and provide rational guides for behavior. Among adolescents the school may often be supplemented by or rejected as a control institution for the work institutions of the community or the adolescent peer culture.<sup>6</sup>

Significant differences are observed among

<sup>4</sup>In certain respects this type is similar to the "socialized delinquent" of E. Hewitt and R. L. Jenkins, *op. cit.*, pp. 42-50. They do not include the characteristic "lack of a sense of guilt" within this social type, however, as this is defined as characteristic of the "unsocialized aggressive" type. The type also bears a similarity to the "genuine delinquent" of Fritz Redl, "The Psychology of Gang Formation and the Treatment of Juvenile Delinquents," *The Psychoanalytic Study of the Child*, Vol. I, New York: International Universities Press, 1947.

<sup>5</sup>For a definition of the composite rating, see Albert J. Reiss, Jr., *op. cit.*, p. 201.

<sup>6</sup>Cf. Albert K. Cohen, "Juvenile Delinquency and the Social Structure," Unpublished Ph. D. dissertation, Harvard University, Department of Social Relations, June 1951.

TABLE 1. SUMMARY TABLES SHOWING SELECTED COMPARISONS OF SOCIAL AND PSYCHOLOGICAL CORRELATES OF THREE PSYCHOLOGICAL TYPES OF DELINQUENCY

Correlate and Item Designation*	Per Cent of Relatively Integrated N=730 (1)	Per Cent of Defective Super-ego N=135 (2)	Per Cent of Weak Ego N=245 (3)	Significance of Comparisons†		
				(1) With (2)	(1) With (3)	(2) With (3)
<i>Community Orientation and Control</i>						
Residence in Delinquency Areas						
High Delinquency	18.9	17.8	11.4	.001	.02	.10
Average Delinquency	52.8	43.7	53.7			
Neighborhood Residential Characteristics						
Settled Residential Area	59.7	47.6	66.9	.01	.01	.001
Commerce, Ind., Rooming Hse.	16.2	25.4	10.5			
Rating of Residential Area						
Poor	41.0	50.8	32.3	.10	.10	.01
Good	33.1	23.0	38.4			
Degree of Residential Mobility						
Frequent change of residence	36.1	42.3	47.6	....	.02	....
<i>Institutional Orientation &amp; Control</i>						
Educational Status						
Left school	25.5	24.8	16.3	....	.02	.10
Still in grade school	52.4	63.0	72.0	.10	.001	.10
Educational Attainment						
Grade school	47.2	60.9	66.9	.01	.001	.001
Educational Achievement						
Retarded over one year	32.0	30.2	40.5	....	.10	.10
Employment Status						
In school, employed part-time	25.9	24.0	17.6	....	.10	.10
Left school, unemployed	29.2	31.4	61.0	....	.001	.05
Age at First Official Delinquency						
12 years or less	11.6	21.4	28.1	.01	.001	.10
16 years or older	26.9	13.0	9.9			
Age at First Court Treatment						
12 years or less	7.3	11.0	15.1	.10	.001	....
16 years or older	31.2	19.9	18.4			
Scholarship in School						
Very poor or poor	35.1	50.5	40.7	.05	....	....
Deportment in School						
Very poor or poor	18.0	27.8	25.5	.10	.10	....
Good	47.4	40.0	38.9			
Truancy from School						
Habitual	9.8	21.1	19.2	.01	.001	....
Never	45.8	36.8	33.7			
Delinquent Offense						
Incorrigible and destructive	8.0	5.1	15.5	....	.01	.05
Burglary	31.8	36.0	26.6			
<i>Primary Group Controls: Family and Peers</i>						
Nativity of Father						
Foreign-born	44.8	50.8	34.5	....	.02	.02
Chicago-born	30.9	24.2	37.1			
Family Constellation						
Parent and siblings	24.9	39.0	26.9	.001	....	.02
Parent(s) and no sibs	12.0	9.8	4.4			
Present Marital Status of Parents						
Parents together	64.3	57.4	64.5	.05	....	....
Parents Sep., Des., Div.	19.5	25.7	22.0			

# PSYCHOLOGICAL TYPES OF DELINQUENCY

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TABLE 1. SUMMARY TABLES SHOWING SELECTED COMPARISONS OF SOCIAL AND PSYCHOLOGICAL CORRELATES OF THREE PSYCHOLOGICAL TYPES OF DELINQUENCY—Continued

Correlate and Item Designation*	Per Cent of Relatively Integrated N=730 (1)	Per Cent of Defective Super-ego N=135 (2)	Per Cent of Weak Ego N=245 (3)	Significance of Comparisons†		
				(1) With (2)	(1) With (3)	(2) With (3)
Quality of Marital Relations Between Parents						
Poor-open conflict	14.2	26.5	24.1	.001	.001	....
Fair	39.7	14.7	12.7			
Quality of Moral Ideals and Techniques of Control in Family						
Unfit parent	19.1	38.0	28.3	.001	.02	.10
Relatively conventional ideal	80.9	62.0	71.7			
Delinquency of Siblings						
Delinquent sibs	14.4	25.0	17.5	.01	....	.01
Size of Sibship						
Five or more	25.0	34.7	24.5	.02	....	.05
Birth Order of Delinquent						
Oldest child	18.8	20.6	26.9	.10	.02	.001
Young child in large family	25.9	33.1	20.1			
Association with Peers						
Lone participant	17.9	14.7	33.9	....	.001	.001
Boys crowd	45.7	52.2	29.8			
Association in Delinquency						
No associates	18.1	15.5	32.5	....	.001	.01

\* Only selected subcategories are included from the detailed tabulations of each factor.

† The level of probability reported is for N by 2 chi squared comparisons, where N is the number of subcategories of a factor.

the psychological types of delinquents in terms of their educational status and position. A significantly larger proportion of both the relatively integrated and defective super-ego types had left school and were either unemployed or at work. Of delinquents in school, 72 per cent of the delinquents with weak ego controls still were registered in elementary grades, while only 52 per cent and 63 per cent of the defective super-ego types were so enrolled. These differences are in part accounted for by differences in age, as the delinquents with weak ego controls are significantly younger in age. Although delinquents with relatively integrated and defective super-ego controls attend school in about equal proportions, a significantly larger proportion of delinquents with defective super-ego controls are enrolled in elementary grades. This difference is not primarily due to differences in age between the two groups. Rather, it represents greater educational retardation of the delinquents with defective super-ego controls.

The relative educational level of the delinquents is further examined by noting the level of attainment and the level of achievement of each delinquent. For all delinquents (both in- and left-school) a significantly larger proportion (53 per cent) of the relatively integrated delinquents had achieved the level of a high school education while only 39 per cent of the defective super-ego and 33 per cent of the weak ego types had achieved this level. Furthermore, of delinquents in school, those with weak ego controls were significantly more often retarded in school (see Table 1). Comparing the data on educational status, position and age of the delinquents, we may note that the relatively integrated delinquents more often proceed at their grade level and achieve high school status before leaving school. However delinquents with weak ego controls are more often retarded in school or, being somewhat younger in age, have achieved only elementary education level. Delinquents with defective super-ego controls are

more often retarded in school, particularly if they are in the age group fourteen years and older.

Examining the employment patterns of the delinquents who have left school, we observe that a significantly larger proportion of delinquents with weak ego controls are unemployed. Similarly, of delinquents in school, a significantly larger proportion of the delinquents with weak ego controls do not take part time employment. Again, while employment is a function of age, the observed differences cannot be accounted for solely on the basis of the age distributions. Delinquents with weak ego controls are less often employed in industry and business and more often unemployed or seeking work.

A number of factors were examined to isolate the strength of personal controls as well as institutional controls. It is assumed these factors measure the performance of the delinquent in, and his attitudes toward, conventional institutions and the larger society.

The delinquents' performance in, and attitudes toward, the school are here measured by his scholastic performance, deportment and regularity of attendance. Delinquents with relatively defective super-ego controls more often demonstrate poor scholarship in school than do delinquents with relatively integrated controls. Likewise, delinquents with relatively weak ego controls more often demonstrate poor scholarship than do those with relatively integrated controls. The pattern also emerges that delinquents with defective super-ego controls are poor in scholarship more often than those with weak ego controls, though the difference is not statistically significant. Similarly, examining the distribution for deportment in the classroom, delinquents with defective super-ego and weak ego controls are rated as poor in deportment significantly more often than delinquents with relatively integrated controls. Finally, delinquents with defective super-ego controls are also significantly more often truant from school than are the relatively integrated type. Both the relatively weak ego and defective super-ego types then appear to reject the school as a control institution and are poor in school performance as compared with the relatively integrated type.

Previous research shows that the nature

of the delinquent's offense is not prognostic of delinquent recidivism.<sup>7</sup> Two categories of delinquent offense differentiated the psychological types, however. Delinquents with weak ego controls more frequently engage in offenses which are destructive of property and more frequently are judged "in-corrigible" or show marked hostility toward authority than do the other types of delinquents. But delinquents with defective super-ego controls engage in acts of burglary more frequently than delinquents with weak ego controls (see Table 1). This lends some support to the idea that the defective super-ego type engages in delinquent acts shown to be characteristic of members of organized delinquent groups.

Finally, we examine the age of the delinquent at the time of his first officially recorded delinquent act and at the time of court treatment. It may be reasoned that delinquents who begin their career at an early age and who come to the attention of authorities at this age perhaps represent a less "socialized" type of delinquent—one who is generally more disturbed emotionally or one who does not develop strong personal controls contra delinquency. Our data show that delinquents with defective super-ego and weak ego controls are significantly younger (12 years or less) when they first appear in official records as delinquents and when they are first given court treatment than are delinquents with relatively integrated controls.

#### PRIMARY GROUP CONTROLS

The major institutions structuring personal controls are those characterized by primary social relations, particularly family and peer groups. We therefore examined the structural and affective character of the family and peer group for delinquents in each of the three psychological types.

Sociologists often point out that membership in different cultural groups creates value conflicts which make for delinquency. A crude measure of such conflict is the nativity of parents.<sup>8</sup> In the present research,

<sup>7</sup> See Albert J. Reiss, Jr., *op cit.*, pp. 205-07.

<sup>8</sup> Such a measure is obviously very crude since a culture conflict cannot be objectively measured by a comparison between two or more cultural codes. It is a factor only if the individual acts as if it were present. For an extended discussion of

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nativity of father, though not of mother, is significantly associated with the psychological type of male delinquent. A significantly larger proportion of the relatively integrated and defective super-ego types are of foreign-born father as compared with the weak ego type. Furthermore, of the native born, a significantly larger proportion of delinquents with weak ego controls come from families where the father was Chicago born. This suggests that conflict in cross-cultural values may be less important for delinquents with relatively weak ego controls; only 34 per cent of these fathers are foreign-born and 37 per cent are Chicago born.

Delinquents who reach a juvenile court come in large proportion from the lower economic and status groups in our society. In the present sample of delinquents, a disproportionate number of the delinquents are drawn from the lower economic and status groups, and it has been suggested that delinquents of the defective super-ego type more often come from lower income and status groups than do other types. No significant differences are observed, however, among the three psychological types of delinquents in this study when comparisons, with chi square tests of significance, are made for six variables which are taken as measures of status or income level (monthly rental of dwelling unit,  $P=.80$ ); (economic status of family,  $P=.50$ ); (work status of heads of household,  $P=.98$ ); (combined earnings of parents,  $P=.99$ ); (father's occupation,  $P=.30$ ); (mother's occupation,  $P=.30$ ).

While no statistically significant differences in socio-economic status are isolated among the psychological types, since there was considerable variation in income and status level, the several distributions are examined to see whether any orderly pattern of association might be observed. Two "tests of pattern" are undertaken, (a) the pattern or direction of the lowest income or status item by psychological type and (b) the deviation of the lowest income or status item in paired comparisons of the three psychological types. Both these tests show a random pattern of distribution of the per-

centages. It therefore seems reasonable to conclude that if differences in socio-economic status exist between the three psychological types of delinquents, the order of such differences are very small as compared with the other observed differences.

The social structure of the family, its completeness, and the character of parental marital relations, are also of consequence in structuring the social relations of parents and children. R. L. Jenkins hypothesizes that the family of the "socialized delinquent" is often broken by absence of the father from the home, and the character of the marital relations between parents is usually one of hostility or mutual indifference.<sup>9</sup> This hypothesis holds in this research for the defective super-ego type, the type which is similar to the "socialized delinquent" of Hewitt and Jenkins. Delinquents with defective super-ego controls significantly more often come from families where the father is absent but other siblings present (see Table 1, Family Constellation). Furthermore, they more often come from families broken by separation, desertion and divorce than do the relatively integrated type. Examining the character of marital relations between parents, we observe that delinquents with defective super-ego controls more often come from homes where there is open conflict between parents as compared with delinquents with relatively integrated controls. But, delinquents with relatively weak ego controls likewise come from such homes more frequently than do delinquents with relatively integrated controls.

The character of the moral ideal and the techniques of supervision and control represented and exercised by parents over their children are important in the formation of the super-ego controls of the child. The ideals influence the content of the controls while the techniques of control influence the extent to which the ideals are accepted and internalized. Jenkins has suggested that the "socialized delinquent" often comes from a home where parental discipline is lax, where parents are dishonest, alcoholic, or participate in "vice" institutions and where the child has lost rapport with the adult

this point, see Louis Wirth, "Culture Conflict and Misconduct," *Social Forces*, IX (June, 1931), pp. 484-92.

<sup>9</sup> See E. Hewitt and R. L. Jenkins, *op. cit.*, pp. 42 ff.

world.<sup>10</sup> In this research, such parents have been characterized as representing "unfit moral ideals" and inadequate techniques of family control. Delinquents with relatively integrated controls come significantly more often from homes represented by relatively conventional ideals and techniques of control (56 per cent) while the homes of delinquents with relatively weak ego or defective super-ego controls are more often characterized as "unfit" (see Table 1). Nonetheless, delinquents with relatively weak ego controls tend to come more often from conventional families than do delinquents with defective super-ego controls.

Delinquents with relatively defective super-ego controls likewise more often come from families where there are other delinquent children than do either the relatively integrated or the weak ego types. This relationship holds even though delinquents with relatively defective super-ego controls come from larger families and are more often young children in large families where the probability of having delinquent sibs is greater (see Table 1).

It has been suggested that eldest children are more often problem children, since they are more frequently the victims of parental anxiety or neurotic conflicts. In the present research, we may note that delinquents with relatively weak ego controls are more often eldest children than are children with relatively integrated controls (and more often tend to be eldest children than delinquents with relatively defective super-ego controls). Furthermore, these children more often are reared in small families than are delinquents with relatively defective super-ego controls.

Sociologists usually emphasize that association with peers in a delinquent culture makes for delinquency.<sup>11</sup> Others, such as Hewitt and Jenkins, and Bettelheim, suggest that certain types of delinquents are members of peer groups while other delinquent children withdraw from such social participation.<sup>12</sup> The "socialized delinquent" of

Hewitt and Jenkins is of the first type while their "unsocialized aggressive" delinquent conforms to the latter type. The data on peer group affiliation of our psychological types of delinquents show that boys with defective super-ego controls are significantly more often members of a boys' gang or crowd (52 per cent) than are delinquents with relatively weak ego controls (30 per cent). In fact, delinquents with relatively weak ego controls more often withdraw from social participation (34 per cent) than do either the relatively integrated (18 per cent) or the defective super-ego type (15 per cent). No significant differences were observed however in the extent of participation in a boys gang or crowd for the relatively integrated and the defective super-ego types—though the direction of the differences suggests that the defective super-ego type more frequently associates with members of a boys' gang or crowd.

Association with peers in a specific delinquent act is also examined. Delinquents with weak ego controls are significantly more often lone offenders than are delinquents of the other two types (see Table 1). No significant differences are observed by number of associates in the offense.

The differences in social and psychological correlates of delinquency between the relatively integrated, defective super-ego, and weak ego types of delinquency suggest that certain syndromes or patterns of factors exist which may explain either the etiology of the behavior or the judgments on which the types are based. Profiles of these three psychological types in terms of the analysis of the correlates of delinquency are therefore presented below. The items reported are not "characteristic items" in the sense that the proportionate incidence of the item is greater than fifty per cent of all type cases. Rather, it indicates items which statistically differentiate the types from one another.

#### THE RELATIVELY INTEGRATED DELINQUENT

The relatively integrated type of delinquent is an adolescent with relatively inte-

School for Emotionally Disturbed Children" in *Juvenile Delinquency and the Schools*, National Association for the Study of Education: 47th Yearbook, 1945, pp. 148-152.

<sup>10</sup> See L. E. Hewitt and R. L. Jenkins, *op. cit.*, pp. 42-45.

<sup>11</sup> For a recent reformulation of this point of view see Solomon Kobrin, "The Conflict of Values in Delinquency Areas," *American Sociological Review*, 16 (October, 1951), pp. 653-661.

<sup>12</sup> See E. Hewitt and R. L. Jenkins, *op. cit.*, p. 8 and pp. 42 ff. and Bruno Bettelheim, "A Special

grated personal controls who in all probability will become a mature adult. These delinquents come from the less desirable residential areas of the city—areas characterized by an average or high delinquency rate, commercial and industrial or semi-residential areas, and areas generally rated as poor from the perspective of living in a settled residential community. Families of these delinquents, however, have relatively stable residential mobility patterns, that is, they do not move within the community or the city at frequent intervals. In this sense, families of these delinquents are probably more integrated into the local life of the community.

The primary group controls which characterize the families of these delinquents suggest that in general the families are structurally intact, the parents maintain good marital relations and they represent conventional moral ideals and effective techniques of control over their children. The relatively integrated delinquent however is oriented toward his peers in the sense that he seldom is a child who does not participate in a peer culture.

From the perspective of institutional orientation and control, the relatively integrated delinquent frequently leaves school and seeks employment in the labor force where he is regularly employed. This is partly to be attributed to the fact that he is somewhat older than the other delinquents. On leaving school, however, the relatively integrated delinquents have generally completed some high school education and are registered at their grade level. They perhaps represent the value patterns of education and work characteristic of lower income and status families in American society—the male prefers earning a living as a manual worker to higher education. To be sure, families of defective super-ego delinquents may not represent these value patterns to a greater extent than families of other types of delinquents since the families do not differ significantly in socio-economic status.

Finally, the personal controls of these relatively integrated delinquents in relation to conventional institutions are examined. Those who are in school are less often truant from school, demonstrate good deportment and in general are no different from other

types of delinquents in scholarship patterns. They do not commit any particular type of offense with significantly greater frequency than do delinquents of other types, though an examination of the pattern of the distribution for offenses suggests that, as in the case of the defective super-ego type, they more often participate in such delinquent acts as burglary and larceny, particularly larceny of autos. Such offenses tend to be more characteristic of the one-time delinquent offender or the members of organized delinquent groups. Then, too, the relatively integrated delinquent is generally about 15 or 16 years old when he first is given official court treatment for his delinquent act. Previous research shows he also is less often a recidivist than are the weak ego or defective super-ego types.<sup>13</sup>

#### THE DEFECTIVE SUPER-EGO DELINQUENT

The defective super-ego type does not internalize the norms of conventional society, and experiences little sense of guilt over his delinquent acts. Rather, he accepts the content of, and membership in, a delinquent peer culture. The social correlates of the defective super-ego type suggest that the personality structure is developed in non-conventional social situations.

From the perspective of community orientation and control, delinquents with defective super-ego controls are usually found in areas of commerce, industry, the rooming house and semi-residential areas. Seldom are they found in settled residential areas where the institutional and community life may be rated "good." Their families are however quite stable in their residential location, moving infrequently from the community.

These delinquents often leave school and seek regular employment. Unlike the relatively integrated type, the defective super-ego type does not generally complete grade school education. Those who remain in school are more frequently found in elementary than high schools, though they are somewhat older in age than delinquents with relatively weak ego controls.

Participation of the defective super-ego type of delinquent in the school likewise shows a rejection of the school as a social

<sup>13</sup> See Albert J. Reiss, Jr., *op. cit.*, pp. 206-207.

control institution. They usually demonstrate poor deportment in school, poor scholarship levels, and are truant from school with great frequency.

The primary group controls which characterize the families of delinquents with defective super-ego controls show that they most often come from families characterized by separation, desertion, or divorce, as well as death of a parent. These delinquents usually have a large number of siblings and more frequently have delinquent sibs than is the case for other types. Parental interaction is frequently marked by open conflict or hostility. Then too, the parents of delinquents with defective super-ego controls less often represent conventional moral ideals and adequate techniques of control.

Delinquents of the defective super-ego type are usually members of a boys' gang, or crowd and participate with several associates in their offense. The nature of their delinquent acts and patterns of participation in delinquency suggest they readily participate in acts which are rationalized by a delinquent peer culture. They probably experience less conflict over such acts since their parents less often represent conventional moral ideals and do not supervise their behavior with regularity or consistency. Previous research shows they have the highest rate of recidivism of the three types.

#### THE RELATIVELY WEAK EGO DELINQUENT

Delinquents with relatively weak ego controls are generally viewed as insecure persons with low self-esteem or as highly aggressive and hostile toward other persons and their environment. They generally exhibit marked anxiety and experience a great deal of internal conflict over their behavior.

These delinquents are most likely to be found in settled residential areas characterized as having adequate and conventional institutions. They appear however to come from families who move about frequently in such communities and from community to community. This suggests that these children are never as easily or readily integrated into the primary peer groups of the community. This is substantiated in part by the fact that they are considerably less often participants in peer groups.

From the perspective of institutional control, delinquents with weak ego controls

seldom have left school. When they do they are usually unemployed. Furthermore, those in school far less frequently seek part-time employment. While they are somewhat younger than delinquents of the other types, this accounts for only part of the difference in patterns of participation. For those in school and those who have left school, the educational position and level of attainment is elementary school, though their scholarship tends to be average for their grade level. They generally show poor deportment and often are truant from school.

Parents of these delinquents are usually native-born Americans. While the parents are usually together, marital relations between them are frequently marked by conflict and hostility. The families of these delinquents less often represent conventional ideals than do the parents of the defective super-ego type.

Finally, delinquents with weak ego controls are frequently eldest children in families which are small. This suggests that their emotional instability in part arises, as some have suggested, from the fact they are more often the victims of parental anxiety or neurotic conflicts. Certainly they appear to participate in peer group life far less often than do the other delinquents, and they are more often lone offenders.

#### CONCLUSION

This paper presents a number of social correlates for the relatively integrated, defective super-ego and weak ego types of delinquents. In the nature of the research it was not possible to ascertain whether the social correlates are primarily operative in defining the psychological types or whether they are important as factors in the etiology of these types of delinquency. The purpose of the paper has been to examine certain social factors to suggest hypotheses concerning the relation of these factors to delinquency.

The research design employed in isolating the correlates cannot be assumed to offer a satisfactory test of the hypotheses. Rather, a research design which employs an intensive analysis of each individual case to show how the social milieu structures the personal controls of the delinquent and how social situations exercise social control over the behavior of the delinquent appears essential to a further test of the hypotheses.

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## DESERTION AND DIVORCE IN PHILADELPHIA

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THERE has existed for a number of years a large body of information on desertion and non-support in Philadelphia which has not been utilized by sociologists.<sup>1</sup> When it is realized that over the past thirty years the number of new court cases of this kind has been almost twice the number of divorces granted to Philadelphians in the same period, and that about 75 per cent of these cases involve minor children as compared to 42 per cent of the divorce cases, the importance of the desertion problem becomes apparent.

Having recently completed some studies dealing with marriage and divorce, the writers decided to combine their findings into a single report covering all three phases of family life in Philadelphia, although space permits the presentation of only a portion of the findings in the present article.<sup>2</sup> To evaluate these findings, however, it is first necessary for the reader to have some idea of the nature and organization

of desertion and divorce data as they now appear in the sociological literature.

*Literature on Desertion.* The actual number of desertion and non-support cases each year are never determined, since only those reaching the courts are recorded.<sup>3</sup> With the financial problem looming large in families from the lower economic levels, this group takes recourse to court action more often than families in the upper income brackets. Although the wife, and occasionally both the husband and wife, deserts her family, it is most frequently the husband who is the defendant in court actions. Thus, as recorded, desertion cases are selective of certain classes but not entirely so, as will be demonstrated later. From the statistical information we have, it is misleading to say that desertion is the "poor man's divorce." Legally, also, the characterization is a misnomer since desertion alone without a divorce does not entitle one to remarry, and many families broken by desertion never reach the divorce courts. Incidentally, in recent years husbands and wives were still living in the same household in about one-third of the Philadelphia desertion and non-support cases.

Some early studies in the field of desertion<sup>4</sup> utilized statistical samples of various

<sup>1</sup> Annual Report of the Philadelphia Municipal Court, 1914 to date, Philadelphia, Pennsylvania.

<sup>2</sup> The writers wish to acknowledge the encouragement and help extended by Mr. Ralph Busser and Mr. John Bodine, members of the Philadelphia Bar Association Committee on Marriage and Divorce Laws and Family Court, which sponsored the divorce study, and the interest and cooperation of the Hon. Curtis Bok, President Judge of Common Pleas Court Number Six, without whose approval the divorce records could not have been examined. Mr. Frank Drown, statistician for the Municipal Court, was most understanding in compiling new items of information on the 1950 "desertion" cases and in permitting use of his statistical cards. Further items of value on the desertion cases were obtained from the records of the Municipal Court, with the help of Dr. John O. Reinemann, and the permission of the Hon. John A. Boyle, President Judge of the Court. The Chief Clerk of the Orphans Court, Mr. Willard MacDonald, granted permission to transcribe a sample of the marriage records for Philadelphia which are filed with his division.

<sup>3</sup> Practically, the failure of the husband or wife, or both, to support or care for their family constitutes "desertion," and in this sense of the word will be used in the present paper. See E. R. Mowrer, *The Family*, Chicago: The University of Chicago Press, 1932, p. 161.

<sup>4</sup> Miss Z. D. Smith, *Deserted Wives and Deserting Husbands: A Study of Two Hundred and Thirty-Four Families*, Boston: The Associated Charities of Boston, 1901, Public. No. 75; Lilian Brandt, *Five Hundred and Seventy-Four Deserters and Their Families*, New York: The Charity Organization Society, 1905; E. E. Eubank, *A Study of Family Desertions*, private edition of University of Chicago doctoral dissertation distributed by University of Chicago Libraries, 1916; J. C. Colcord,

sorts pertaining to applicants for financial aid to private charitable agencies. But, because of the peculiar origin of this kind of desertion data, many of the general conclusions derived from such studies clearly are in error. When Family Courts were established prior to the first World War, complaints of desertion and non-support were initiated by the population at large as legalistic actions and not solely as a result of impoverishment. With this new Court system in operation, and with the growth of public relief, both state and national, social workers wrote decreasingly about desertion and soon ceased statistical study of the problem. Hence, except for Mowrer's study of desertion in Chicago in 1927 (slightly extended to 1939),<sup>5</sup> and Zukerman's studies of desertions which happened to be reported to his agency (Jewish),<sup>6</sup> there have been no major studies of desertion in the United States, and, in spite of its importance the subject has been slowly disappearing from the sociological literature. State and federal agencies, however, devote a considerable amount of effort and money to the amelioration of this chronic problem which, in so many ways, looms larger than the problem of divorce itself.

In June, 1948 the number of dependent children receiving aid under the Federal Social Security Act numbered 1,145,816. Desertion by the father or separation without court decree accounted for 19 per cent

of the children in need; divorce and legal separation, 11 per cent; and unmarried mothers, 11 per cent—adding up to a total of 41 per cent. In Pennsylvania estrangement of the father accounted for 52 per cent of all children aided—the desertion figure being 33 per cent, divorce 5 per cent, and unmarried motherhood 14 per cent. In Pennsylvania desertion is clearly the major reason for child dependency, in this instance being twice as important as the death of the father.<sup>7</sup> It would seem, therefore, that an extensive and thorough-going study of the background factors involved in desertion would be a very timely sociological undertaking.

*Status of Divorce Statistics.* Although space precludes a detailed analysis of divorce statistics,<sup>8</sup> it should be pointed out that, generally speaking, what data we have on divorce in the United States have been gathered in three ways: (a) by compilation of divorce records at the county, state, or national levels, (b) through decennial and sample surveys made by the Census Bureau, and (c) by going directly to the divorcees by means of the questionnaire and the personal interview. The latter approach is usually conceived within the broader framework of the marital-adjustment-type survey, hence is mentioned here only in passing.<sup>9</sup>

While the decennial Censuses prior to 1950 have not been designed to yield detailed data, some indirect information on divorce has been obtained.<sup>10</sup> In addition to its decennial enumerations the Census Bureau periodically conducts sample sur-

"Desertion and Non-Support in Family Case Work," *The Annals of the American Academy of Political and Social Science*, LXXVII (May, 1918), pp. 91-102; J. C. Colcord, *Broken Homes, A Study of Family Desertion and Its Social Treatment*, New York: Russell Sage Foundation, 1919; J. C. Colcord, "Family Desertion and Non-Support," *Encyclopedia of the Social Sciences*, Vol. 6 (1937 edition), pp. 78-81; S. H. Patterson, "Family Desertion and Non-Support," *Journal of Delinquency* (September, 1922), pp. 249-282 and (November, 1922), pp. 299-333.

<sup>5</sup> E. R. Mowrer, *Family Disorganization*, Chicago: The University of Chicago Press, 1927, pp. 89-108; *ibid.*, rev. ed., 1939; *op. cit.*, 1932; and "The Trend and Ecology of Family Disintegration in Chicago," *American Sociological Review*, 3 (June, 1938), pp. 344-353.

<sup>6</sup> Jacob T. Zukerman, "A Socio-Legal Approach to Family Desertion," *Marriage and Family Living*, XII (August, 1950), pp. 83-85; and mimeographed releases by the National Desertion Bureau, 105 Nassau Street, New York 7, N. Y.

<sup>7</sup> *Aid to Dependent Children in A Postwar Year*, Public Assistance Report No. 17, Bureau of Public Assistance, Social Security Administration, June, 1950, p. 32.

<sup>8</sup> For a lengthy survey of the literature on divorce and a detailed explanation of the method followed and the problems involved, see William M. Kephart, *A Study of Divorce*, unpublished doctoral dissertation, University of Pennsylvania, 1951.

<sup>9</sup> A good example of this methodological approach may be found in Harvey J. Locke, *Predicting Adjustment in Marriage: A Comparison of a Divorced and a Happily Married Group*, New York: H. Holt & Co., 1951.

<sup>10</sup> For an example of the ways in which this material can be utilized see E. R. Groves and W. F. Ogburn, *American Marriage and Family Relationships*, New York: H. Holt & Co., 1928, Chs. XXII and XXIII.

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<sup>11</sup> *Current Sociology*, No. 10, February, 1951, p. 10.

veys, some of which include questions pertaining to separation and divorce. These items are tabulated and issued as part of the Bureau's "Current Population Reports." The latter contain much valuable information and have been widely used by both text writers and research workers. Care should be taken, especially by text writers, to insure that the data contained in these reports (as well as in prior decennial Census material) are interpreted in the context in which they were designed. The February, 1948 Report,<sup>11</sup> to illustrate, included information relating divorce to such items as age, color, occupation, and education. Since it is the interviewees who designate themselves as "single," "married," "widowed," and "divorced," a certain degree of inaccuracy can be expected, especially for those who are in the divorced class. More importantly, however, "divorced" refers *only* to those persons who were divorced and not remarried at the time of the interview. Since most divorcees follow a pattern of relatively early remarriage, the "married" group includes scores of persons who have actually been divorced and have remarried, and hence do not appear with the "divorced," as defined in the foregoing Report. The contextual limitations of the classifications are clearly stated in the Census Reports, and little justification exists for misinterpretation of the data, but these tables do not represent an accurate description of divorced persons.

Theoretically, research programs based on divorce records can be conducted on county, state, or national levels. Practically, however, the nature of our current divorce-reporting procedures poses many problems for the researcher at all three levels. At the county level, for example, there is often no divorce record other than that contained in the divorce testimony itself. In the Philadelphia study this meant leafing through, in some cases, hundreds of pages of testimony to gather the necessary information for a single case, and the 1,434 divorces investigated required many months of work. The absence of statistical summaries at the county level explains the reluctance of many

courts to open their divorce files for research purposes; for, while the researcher has little interest in the divorce suit as such, he cannot, in many counties, be given the data he is after without also being given access to all the intimate details of the case. Often the court will "solve" the problem by issuing a blanket order impounding all divorce records.

At the state level the situation is much different. As the divorces are granted by the individual counties, abstracts are sent to State Vital Statistics Bureaus. The researcher in this instance is spared the tedious searching of divorce testimony for the pertinent data. Furthermore, state records are normally not impounded. In terms of drawbacks, however, about half of the states simply have no provision for the centralized collection of county divorce records, and in almost all of the states which do have central offices, the county abstracts provide for an insufficient number of items from the demographic and sociological viewpoint.

At one time the Federal government gathered statistical facts from original records and published detailed tabulations on marriage and divorce. Today, the National Office of Vital Statistics merely encourages the states to compile data on marriage and divorce, and publishes such tables as the states send to them already prepared. Plans for the centralized collection of marriage and divorce records and a national registration area have not materialized.<sup>12</sup>

It is hardly surprising, therefore, that we have so little information on the relationship between divorce and such significant items as color, nationality, remarriage, age at marriage, education, income, occupation, and religion, and that what information we do have refers only to segments of the population and not to the nation as a whole. It is manifestly clear that there is great variation in the quality, relevancy, and adequacy of information on divorce, that the

<sup>11</sup> *Current Population Reports*, Series P-20, No. 10, February 6, 1948, "Characteristics of Single, Married, Widowed, and Divorced Persons in 1947."

<sup>12</sup> For a detailed account of the subject see Samuel C. Newman's "The Development and Status of Vital Statistics on Marriage and Divorce," *American Sociological Review*, 15 (June, 1950), pp. 426-429; and B. M. Cohen's "Centralized Collection of Marriage and Divorce Records," *American Journal of Public Health*, 31 (August, 1941), pp. 824-828.

various kinds of data and research are not comparable, and there is yet no system in operation which will produce results descriptive of the entire country. The nature of our information on marriage is similarly fragmentary and inadequate. And, as things now stand, it is not likely that any consistency or completeness of coverage will be attained in the next fifty years.<sup>13</sup> In the meantime, with the cooperation of clerks and officials, local data on marriage, desertion, and divorce may be gathered which will enable us to explore some marital relationships.

#### THE PHILADELPHIA STUDY

In Philadelphia, where city and county are coterminous, there are three separate courts having jurisdiction over marriage and family matters. The Orphans Court has jurisdiction over the issuance of marriage licenses and their custody; the Court of Common Pleas has jurisdiction in matters pertaining to divorce, annulment, and legal separation; while the Municipal Court has jurisdiction over virtually all other family areas, including desertion and non-support, and child custody. Since it was necessary to gather data from all three courts, this study entailed the cooperation of many persons, whose help has already been acknowledged.

*Marriages.*<sup>14</sup> The marriage records in the files of the Orphans Court are numbered consecutively, and by taking records numbered 0-9, 50-59, etc., a random 20 per cent sample of the marriage licenses issued in Philadelphia in 1950 was obtained. Except for an occasional instance, the follow-up system of the Court accomplishes a complete recording of all marriages. Excluding 41

cases which represented licenses issued but not used, 3,261 marriages remained to comprise the 1950 marriage sample.

*Desertions.* Since 1950 was a Census year, the Municipal Court Statistician, Mr. Frank S. Drown, acted upon the suggestion that the data on desertion and non-support for this year be assembled in greater detail, thus adding some new dimensions to his material. To obtain information on the occupation of the husband, however, it was necessary to re-examine the individual records and transpose the data to the Court's statistical cards. The 2,191 cases assembled represent families appearing for the first time before the Domestic Relations Division in 1950 because of desertion or non-support of the wife, the wife and child, or the child only.<sup>15</sup>

*Divorces.* Through the sponsorship of the aforementioned Philadelphia Bar Committee, the divorce data were procured from the divorce testimony of cases heard in Court Number Six, one of the seven Common Pleas Courts in Philadelphia which handle divorce actions. In the assignment of the cases to the courts a mechanical numbering device is used which, at the outset, assures the randomness of cases among the courts. Because the divorce records (testimony and "exhibits") contain no summary or face sheet, it was necessary to read each case thoroughly to obtain the essential factual information. This time-consuming process made it necessary to restrict the size of the sample to 25 per cent of the cases in each year from 1937 to 1950 for Court Number Six, thus giving a total sample of 1,434 cases. Annulments represented only about one per cent of all cases and were granted principally because of under-age or bigamy. Legal separations were exceedingly

<sup>13</sup> Dr. H. L. Dunn, Chief of the National Office of Vital Statistics, five years ago wrote that "The lack of proper marriage and divorce statistics has for long been a major defect in our public health statistical knowledge. Without such data, comprehensive understanding of population and social problems will never be complete." Keynote address, "Public Health Statistics—Past, Present, and Future" (Endicott, N. Y.: *Public Health Executives and Vital Statistics Registrars Conference*, mimeographed report, 1947), p. 4.

<sup>14</sup> For an extensive critique of marriage records and methodological problems see Thomas P. Monahan, *The Pattern of Age at Marriage in the United States*, Philadelphia: Stephenson Brothers, 1951.

<sup>15</sup> "Friendly service" cases are not included in these 1950 data because this group included cases of simple family quarreling and disagreements which resulted in no formal action, or were matters not within the jurisdiction of the Division. The Court representatives act in these cases as mediators in reconciling or bringing about agreement between the parties, usually in a single interview. In recent years the volume of "friendly service" cases has grown, amounting to 37 per cent of all cases in the Domestic Division in 1950 versus 2 per cent in 1945. In this manner, probably, a small number of non-support cases did not reach the court and become a matter of record in 1950.

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rare. Since, by their nature under Pennsylvania statutes, both annulments and legal separations are quite different from divorce actions, they were excluded from the sample in order to maintain homogeneity in the data.

#### SOME RESULTS OF THE PHILADELPHIA STUDY<sup>16</sup>

**Remarriage.** The failure to separate first marriages from remarriages continues to be a major flaw in nearly all studies of marriage, desertion, divorce, and marital adjustment.<sup>17</sup> This is most important because remarriages differ significantly from first marriages; their relative number is large and varies from time to time and from place to place; and within the remarrying group a marked change has taken place—with the divorced element becoming relatively more numerous than the widowed class.

The seriousness of this point in marriage research has been emphasized by one of the present writers, and has recently been repeated by Hollingshead.<sup>18</sup> The conglomeration of remarriages with first marriages raises grave doubts about the validity of most items that have been investigated in marital research. With respect to divorce, for example, Willcox pointed out that "What the public is interested in and what all these figures are understood to show is the chance that a first marriage will end in divorce . . . (and) the statistics of first marriages should be separated as they are not now from those of supplementary mar-

riages."<sup>19</sup> In the same sense, it can be said that the results of almost all marital adjustment studies are ambiguous in that they failed to separate first marriages from all marriages.<sup>20</sup>

The possibility that divorced persons may show a proneness to repetitive divorce cannot be dismissed without careful investigation. Remarriages also involve older people, and it is to be expected that their pattern of divorce or desertion would differ markedly from first marriages on such points as age at marriage and age-difference, duration of marriage, and number of children. In the Philadelphia divorce sample, for instance, where desertion was the ground for divorce, *primary* marriages (both parties married for the first time) showed the usual pattern with the wife obtaining the divorce in 58 per cent of the cases, but in the remarried group the situation was reversed with the husband receiving the divorce in 56 per cent of the cases.

Earlier writers seem to have underestimated the extent to which divorcees remarry, and this may have been one reason for the failure to refine divorce and desertion data for first marriages only. Cahen, for instance, estimated that "only 35 per cent of divorced persons marry."<sup>21</sup> Actually the chances of remarriage for divorced persons in the New England area in 1940 were higher for the divorced than for the single or widowed persons of the same age.<sup>22</sup> A statistician of the Census Bureau recently estimated that in 19 per cent of the marriages in the United States one or both parties were previously married.<sup>23</sup> All available evidence indicates that the remarriage element is a large one.

<sup>16</sup> Certain non-conformities in the three types of data should be recognized, especially the different time periods represented: 1950 for desertions, involving marriages of prior years, not all taking place in Philadelphia; 1950 for marriages of persons beginning married life in 1950, some of whom were not Philadelphians; and 1937-1950 for divorcees whose marriage dates spread back a number of years and some of whom were not married in Philadelphia. The reader is urged to keep these points in mind, since the non-comparabilities may not be immediately apparent.

<sup>17</sup> See Kephart, *op. cit.*; Monahan, *op. cit.*; and W. F. Willcox, "Marriage Rate in Michigan, 1870-1890," *Publication of the American Statistical Association*, 4 (1894-95), pp. 1-11.

<sup>18</sup> Monahan, *op. cit.*; A. B. Hollingshead, "Age Relationships in Marriage," *American Sociological Review*, 16 (August, 1951), pp. 492-99.

<sup>19</sup> W. F. Willcox, *Studies in American Demography*, New York: Cornell University Press, 1940, p. 350.

<sup>20</sup> Locke's recent study (*op. cit.*) is the first major marital adjustment survey which gives separate statistical treatment to first marriages.

<sup>21</sup> Alfred Cahen, *A Statistical Analysis of American Divorce*, New York: Columbia University Press, 1932, p. 108.

<sup>22</sup> M. Spiegelman, "The American Family," *The Record—American Institute of Actuaries*, Vol. 33 (November, 1944), p. 404.

<sup>23</sup> Paul C. Glick, "First Marriages and Remarriages," *American Sociological Review*, 16 (December, 1949), p. 727. See also the Metropolitan Life Insurance Company's *Statistical Bulletin*, January, 1949, pp. 8-10.

The Philadelphia findings (Table 1) reveal that for the white group the proportion of remarriages is higher in the marriage sample than in the divorce sample, and highest of all in the desertion cases. Because foreign-born persons are now concentrated in the upper age levels of the population their high remarriage percentages are understandable, although even here the remarriage percentage is lowest for the divorce sample.

The nonwhite remarriage figure of 11.6 per cent in Table 1 is questionable since 99 nonwhite *primary* marriages (as against 26 for the native whites) reported "children by a previous marriage." Although this irregularity could signify illegitimate motherhood, a detailed examination of the nonwhite

per cent to 17 per cent of all cases. (If we add to the divorced category in 1950 those *primary* marriages which were divorced at the time of their appearance at Court, divorce was found to mark a minimum of 21 per cent of the native white desertion cases.) Stated in another way these figures show that 22 per cent of the remarriages in the white group in 1915-16 involved a divorced person, whereas in 1950 the figure was 80 per cent.

The higher percentage of remarriages in the 1950 desertion cases suggests that remarried persons were experiencing relatively more difficulty in regard to desertion or that primary marriages were relatively more stable. The divorce situation in these fam-

TABLE 1. PERCENTAGE OF CASES INVOLVING A REMARRIAGE OF ONE OR BOTH PARTIES  
PHILADELPHIA <sup>24</sup>

	Marriages		Desertions		Divorces	
	N	Per Cent Remarriage	N	Per Cent Remarriage	N	Per Cent Remarriage
Total	3261	17.6	2191	17.3	1434	12.4
Total White	2775	17.5	1307	21.1	1273	12.5
Native	2539	15.2	1144	19.4	1058	11.2
Foreign Born	236	42.4	163	34.4	215	18.6
Nonwhite	486	18.3	884	11.6	161	11.8

data indicated that the marital status as reported was probably erroneous. If these cases were all counted as remarriages, the remarriage percentages in the desertion cases would become 22 per cent for the native whites and 23 per cent for the nonwhites, suggesting that these two groups very likely show the same remarriage proportions.

The Domestic Relations Division compiled some data in 1915 and 1916 on the marital status of parties in desertion cases which show that fewer remarried and fewer divorced persons were involved at that time. For white couples the proportion of all cases involving remarried persons was 15 per cent in 1915-16, and 21 per cent in 1950; while the corresponding figure for cases involving a previously divorced person rose from 3

ilies coming to the Court seems quite high, indeed, pointing to divorce as being a part of the present day desertion syndrome. However, it should be appreciated that divorced wives (with children) take recourse to the Municipal Court to enforce support orders in their divorce decrees. It is quite apparent, among the whites at least, that the remarriage group in desertion cases is preponderantly characterized by divorce today.

*Nonwhites.* In a number of respects nonwhites exhibit a marital pattern which is different from that of whites. For instance, the median age of nonwhites in the 1950 desertion cases was three years younger than the median age of the whites, for both males and females. The failure to separate whites and nonwhites represents another defect in marital studies and misleading results are a consequence.

Not much is known, factually, about the relationship between the white and nonwhite divorce rates, although the argument begun

<sup>24</sup> See footnotes 3 and 16. Nonwhites and foreign born include those cases in which only one party was nonwhite or foreign born, respectively. Over 99 per cent of the nonwhites in these tables are Negroes.

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by Wright and Willcox over a half-century ago still continues.<sup>25</sup> One student of divorce, for example, has recently stated that the divorce rate is higher among Negroes than among whites.<sup>26</sup>

Groves and Ogburn, using Census data on divorced-but-not-remarried persons, gave circulation to the idea that the percentage of persons divorced was significantly larger for Negroes than for whites.<sup>27</sup> Of more recent date, the February, 1948 Current Population Report states that "The proportion of divorced persons among the non-whites did not differ significantly from that among the whites."<sup>28</sup>

In Mississippi the nonwhite and white divorce rates were the same in 1928-29, but throughout the depression the white rate of divorce was about twice that of the non-white; and in recent years, except for 1944 when the rates were the same again, the whites have shown a slightly higher divorce rate. In Virginia, also, the rate of divorce for whites was much higher than the non-white rate during the depression, but after 1941 the relationship was completely reversed with the white rate being only about two-thirds the nonwhite rate.<sup>29</sup> It appears, therefore, that the relative positions of the two classes in the divorce scene varies with the economic cycle and the social-economic area. Whether the nonwhites have permanently adopted the divorce pattern of the whites remains to be seen.

The Philadelphia data (Table 2) also suggest the same upswing of the nonwhite divorce rate in the postwar period. The opinion of lawyers and court clerks who handle divorce records is confirmed by these results. More Negro lawyers are being admitted to the bar, and as one clerk puts it, "They impress upon their fellows the

TABLE 2. PERCENTAGE OF NONWHITES INVOLVED IN DIVORCES, PHILADELPHIA

Years	N	Divorces Per Cent Nonwhite	Per Cent of Married Males 15 Years & Over Nonwhite
1937-43	492	4.5	12.5 (1940)
1944-50	942	13.7	17.1 (1950)

importance of 'doing it legally.' " Also, divorces cost money and many Negroes are in a better position financially to afford them than they were prior to World War II.

While the above findings suggest that Negroes are underrepresented in divorce actions in Philadelphia, there is no question about their being overrepresented in desertion and non-support cases. The Census Report just cited, for example, states that the proportion of persons who were married but living apart from their spouses was about three times that among the whites; and the Federal Security Agency's report on families receiving aid to dependent children in June, 1948 stated that separately considered, "Desertion was twice as

TABLE 3. PERCENTAGE OF NONWHITE DESERTION AND NON-SUPPORT CASES CLASSIFIED BY COLOR OF HUSBAND PHILADELPHIA

Year	Number of Cases	Per Cent Nonwhite	Per Cent of Married Males 15 Years & Over Nonwhite
			5.9 (1910)
1915	3832	7.3	
1916	3443	10.3	
1917	(1195)*	10.3	
1918	(1200)*	15.7	
			8.5 (1920)
1922	4401	18.7	
1923	4724	20.2	
			12.5 (1940)
1940	3584	(24.0)	
1941	3596	29.0	
1942	3726	33.6	
1943	3538	35.9	
1944	3416	37.7	
1945	3600	36.0	
1946	4550	33.5	
1947	3659	32.8	
1948	3055	38.3	
1949	2927	....	
1950	2191	40.3	17.1 (1950)

\* Sample of cases.

<sup>25</sup> For a summary of this argument see J. P. Lichtenberger, *Divorce, A Social Interpretation*, New York: McGraw Hill, 1931, pp. 123-127.

<sup>26</sup> William J. Goode, "Economic Factors in Marital Stability," *American Sociological Review*, 16 (December, 1951), p. 805.

<sup>27</sup> *Op. cit.*, pp. 370-374.

<sup>28</sup> *Op. cit.*, p. 3.

<sup>29</sup> See the *Annual Reports of the Division of Vital Statistics*, State Department of Health, Jackson, Mississippi, and the *Annual Report of the Virginia State Department of Health, Statistical Supplement*, for the fiscal year ending June 30, 1949, Richmond, Virginia.

TABLE 4. PERCENTAGE OF FOREIGN BORN INVOLVED IN ALL WHITE DIVORCES

PHILADELPHIA			
Years	Number of Cases	Per Cent Foreign Born	Per Cent of White Married Males, 15 Years and Over, Foreign Born
1937-1943	460	20.0	37.2 (1930)
1944-1950	813	14.7	29.5 (1940)
Total	1273	16.9	....

prevalent, and father not married to mother four times as prevalent among the nonwhite ADC families as among the white. Divorce was the only reason for estrangement which occurred less frequently among the nonwhite than white families, partly because nonwhite persons more often cannot afford divorce.<sup>30</sup>

The Municipal Court data (Table 3) show that the same emphasis has prevailed in Philadelphia for a long time. Studies by Mowrer and others some years ago also point to the prevalence of desertion among the nonwhites.<sup>31</sup>

Another difference between the white and nonwhite patterns appears when we examine the distribution of divorces by duration of marriage. When actual *separation* dates were used, the two groups were similar. But when the durations were arranged according to the dates the divorces were *legally* granted, the Negro marriages ending in divorce were found, on the average, to be several years longer in duration compared to the whites.

On the basis of these Philadelphia findings the following relationships emerge: The percentage of divorce among white families appears to be somewhat higher than among nonwhite families. At any given time, however, there appears to be a backlog of nonwhite families characterized by separation or desertion for which no formal divorce proceedings have been initiated. The growing proportion of nonwhites in divorce no doubt reflects the generally prosperous economic conditions of recent years in which the nonwhite population shares. It is clear,

<sup>30</sup> *Op. cit.*, p. 18.

<sup>31</sup> See Mowrer, *op. cit.*, 1939 ed., p. 95.

TABLE 5. PERCENTAGE OF HUSBANDS FOREIGN BORN IN WHITE DESERTION AND NON-SUPPORT CASES

PHILADELPHIA			
Year	Number of White Cases	Per Cent Foreign Born	Per Cent of White Married Males, 15 Years and Over, Foreign Born (U. S. Census)
1915	3551	32.6	41.6 (1910)
1916	3087	33.6	
1917	(1072)*	33.0	
1918	(1011)*	30.4	
1922	3502	35.4	39.8 (1920)
1923	3512	34.0	
1941	2553	15.4	29.5 (1940)
1942	2473	11.5	
1943	2270	14.1	
1944	2124	13.2	
1945	2303	12.3	
1946	3024	8.5	
1947	2425	7.8	
1948	1884	10.0	
1949	....	....	
1950	1307	9.1	

\* Sample of cases.

also, that it is of vital importance to give separate statistical treatment to the white and nonwhite groups in marital studies.

*Nationality.* The difference between the native and foreign-born marital patterns is not readily apparent, since many nationalities with their distinctive family practices comprise the foreign-born group. With their diminution in number and varying degrees of cultural assimilation it would be difficult, and perhaps not very rewarding, to isolate special nationalities for statistical study. For research purposes, nevertheless, it is probably unwise to include the foreign-born with the native population. Our findings revealed many differences between the two groups.

Very few data are available regarding the incidence of divorce among the foreign-born. Groves and Ogburn found a relatively low percentage of divorce among foreign-born persons,<sup>32</sup> although their conclusion was

<sup>32</sup> *Op. cit.*, p. 371. On the other hand, Clarence W. Schroeder, *Divorce in a City of 100,000*, Popu-

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based on decennial Census data, the limitations of which are great. The Philadelphia data (Table 4) suggest that the foreign born may have been underrepresented in divorce actions.

It is apparent, furthermore (Table 5), that relatively fewer foreign born appear in the desertion and non-support picture.

Since the rate of divorce and desertion is highest in the early years of married life, diminishing thereafter, and since most foreign born were married long ago, their smaller contribution *in recent years* to desertion and divorce can be attributed to a large extent to their marriages being of longer duration. However, as the accompanying table shows, and as Patterson demonstrated for Philadelphia some 30 years ago<sup>33</sup> (when marriage durations were probably nearly alike), compared to the native whites and the nonwhites the foreign born accounted for fewer cases of desertion relative to their married population. Hence, in

lation, Peoria, Illinois: Bradley Polytechnic Institute Library, 1939, p. 52, found a slight positive correlation between divorce rates and areas of foreign born residence.

<sup>33</sup> *Op. cit.*, pp. 271-72.

spite of their less favorable economic position compared to the native whites, it seems that the foreign born contributed less than their expected share of desertions in Philadelphia.

#### CONCLUDING REMARKS

While awaiting a realistic and effective national system for the statistical compilation of meaningful data on marriage, desertion, and divorce, it seems to the writers that a great deal can be accomplished at local levels. These data in their original form, and sometimes in statistical readiness, can in many instances be studied with the approval of understanding officials. In doing such work it is imperative that research workers realize the importance of refining their data for marital status, color, and nativity. The active interest of professional sociologists could thereby produce immediate results of value in areas where we have so little to guide us at present. Furthermore, such a direct concern with local data would in time, no doubt enlist the participation of registrars and officials without whose interest the national objective cannot be attained.

## MEASURING FAMILY SOLIDARITY \*

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IN the large amount of writing that has been done by observers of the family it has frequently been noted that the members of some families are more closely bound together as a group of interacting persons than is the case in other families. This variable of family interaction has been variously referred to as family unity, coherence, integration, and solidarity. The problem with which this report is concerned is the measurement of this dimension of family interaction.

At the outset, to establish the framework in which this study fits, a distinction can be made between three sets of variables: (a) the degree to which the interaction be-

tween the family members is marked by a drawing together of the individual members, or a minimizing of the social distance between them, (b) the specific types of interaction between the members in which solidarity can be observed, and (c) the bonds or ties between the members of a family from which this solidarity results. In some of the discussions of solidarity<sup>1</sup> such categories of interaction as "common interests," "joint activity," and the like, have been referred to as the bonds or ties which hold the individual members together. But having interests in common or engaging

<sup>1</sup> E.g. Robert C. Angell, *The Family Encounters the Depression*, New York: Scribners, 1934, pp. 14-15, and M. Nimkoff, *Marriage and the Family*, New York: Houghton-Mifflin, 1947, p. 123 ff.

\* Paper read at the annual meeting of the American Sociological Society, September 3-5, 1952.

in joint activity does not necessarily tie people together in the sense of minimizing the social distance between them, though it may reduce the physical space that separates them. The individual members are tied together by the mutual satisfaction which they derive from association with each other or possibly, though perhaps not so likely in our contemporary society, by some other force such as threat of physical injury.

We are not interested at the present in observing these bonds. The present study is concerned with the first two of the above mentioned sets of variables, i.e. with measuring the dimension of solidarity in whatever ways it is manifest in the interacting between the members of families. The major steps then in our study are: (1) to select those categories of interaction in which solidarity can be observed, (2) to devise a means of measuring this observed solidarity, and (3) to investigate the relationships between solidarity as measured in one sort of interaction and solidarity as measured in others.

#### DEVELOPING A MEASURE OF FAMILY SOLIDARITY

*Selecting the Categories of Interaction.* Several studies have been made relating solidarity to the effect of crisis situations on family structure and organization. The basic hypothesis of these studies has been that families with a high degree of solidarity resist the disorganizing effects of crises better than families with a low degree of solidarity. In general this hypothesis seems to be supported by the evidence of these investigations. The present study is not concerned with the effects of crises, but we are interested in these earlier studies because they have begun the process of identifying those aspects of family interaction in which solidarity is manifest.

In summarizing his study of the effects on fifty families of the economic depression in the 1930's, Angell differentiates between families on the basis of integration and adaptability and concludes that these two attributes of family interaction are related to the way in which families survive the disorganizing effects of crises. In discussing integration he points out that "there are many bonds of coherence and unity running

through family life of which common interests, affection, and a sense of economic interdependence are perhaps the most prominent."<sup>2</sup> With some suspicion that the prominence of a "sense of economic interdependence" might have been due in part to the prominence of economic factors in the crises he was observing, we can begin the selection of indicators of family solidarity with these.

In a continuation of this study, Cavan and Ranck<sup>3</sup> concluded that the major elements of family unity are (a) unity in family objectives, (b) subordination of personal interests to the good of the family as a group, (c) adherence to family ideals, and (d) the capacity of the family to satisfy within the family circle the personal interests of its members. They also indicated the importance of reciprocal roles and their acceptance by the family members as a characteristic of the unified family.

Cavan developed a scale of family integration which has more recently been used by Hill in his study of 135 families in Iowa.<sup>4</sup> As used by Hill the scale includes five items, one each measuring (a) degrees of affection, (b) amount of joint activity of family members, (c) willingness to sacrifice to attain family objectives, (d) degree of *esprit de corps* or family pride, and (e) degree to which solidarity is present.<sup>5</sup>

In addition to the Angell-Cavan-Hill development of integration measures, the anal-

<sup>2</sup> *Ibid.*

<sup>3</sup> Ruth S. Cavan and K. Ranck, *The Family and the Depression*, Chicago: University of Chicago, 1938.

<sup>4</sup> Reuben Hill, *Families under Stress*, New York: Harper & Bros., 1949, pp. 130-132 and 426-428.

<sup>5</sup> The question might be raised at this point as to why the Cavan scale or the Hill version of it was regarded as unsatisfactory. Several considerations led to the attempt to develop a new instrument for measuring family solidarity. Some of these have to do with specific items in the Cavan-Hill scale and will be discussed below. In general, it seemed inadequate for our purposes because (a) we were interested in developing a questionnaire rather than an interview schedule, (2) several of the items appeared to include more than one factor, and (3) there was a wide range in the coefficients of correlation between each of these items and the total Dynamic Stability Score. ( $r=.19$  to  $r=.77$  as reported by L. D'unigan in Reuben Hill, *op. cit.*)

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ysis of marital unity by Harriet Mowrer<sup>6</sup> suggested the importance of certain types of inter-personal relationships.

From these suggestions a list of eight types of interaction was compiled. They are: (1) *Agreement* with each other, (2) *Cooperation* with each other, (3) *Concern* for each other's welfare, (4) *Enjoyment* of association with each other, (5) *Affection* for each other, (6) *Esteem* or admiration for each other, (7) *Interest* in each other, and (8) *Confidence* or trust in each other. It will be noted that these types of interaction are inter-personal rather than concerned with group symbols. A concept which has sometimes been equated with and sometimes confused with family solidarity or integration is "familism." Locke's definition of familism<sup>7</sup> includes a number of elements which have been listed by others as aspects of integration or solidarity. Taking solidarity to mean the closeness of family members to each other, a distinction can be made between families in which there is a high degree of solidarity observable in the inter-personal relationships between the individual members and those families in which there is a high degree of solidarity observable in the common loyalty of the individual members to family ideals, pride in family background, pursuit of family goals, desire to see the family perpetuated, and the like. The second of these might be considered a special case of solidarity and may be called familism.

*Constructing the Questionnaire.* About sixty specific items concerning the behavior and attitudes of family members in the above mentioned eight categories were constructed.<sup>8</sup> These were then scrambled and

presented to a class of fifty students at the University of Washington, together with the eight categories. The students were asked to classify the items under the category of which each was a specific example. For each of the eight categories, the five items which showed the least ambiguity in re-classification were selected for the questionnaire. The measure of family solidarity used, then, consists of eight scales each measuring one of the eight categories of interaction or indicators of solidarity, and each consisting of five separate items. The entire questionnaire of which these items were a part consisted of a total of ninety items. Those relevant to this report are discussed below.

*The Respondents.* There are two main groups of respondents used in this study, neither of which can be regarded as a random sample.<sup>9</sup> One group was taken from the residents of twenty-two randomly selected census tracts in the northern half of the metropolitan district of Seattle; the other from the patients and families of patients at Firlands,<sup>10</sup> a county operated tuberculosis hospital with a current population of around nine hundred. These respondents were selected by taking every eighth card from the admissions file, rejecting those which were unmarried or not classified as "white."

Most of the questionnaires were distributed personally and individually with the distributor making a short explanation and remaining while the respondent completed it. Questionnaires were mailed to the spouses

want? — perfectly, — very well, — fairly well, — not too well, — very poorly."

<sup>9</sup> Had this study been concerned with describing a specified population a random sample would have been essential. Even in the case of a study of this sort a random sample is much to be desired, but limited resources of time and money prevented this.

<sup>10</sup> Several considerations led to including the Firlands respondents in this study. For one thing, using so small a total number of respondents we were concerned about the possibility of having too few cases at the lower end of the solidarity continuum to treat statistically. Knowing of the high rate of separation and divorce among the Firland's population we hoped, by including it, to get a larger proportion of families with low solidarity. The total number of respondents were sufficiently dispersed in regard to solidarity, but the difference between the Seattle group and the Firland's group was small and not statistically significant.

<sup>6</sup> Harriet Mowrer, "Getting Along in Marriage" in *Family, Marriage and Parenthood*, edited by Howard Becker and Reuben Hill, Boston: D. C. Heath & Co., 1948, pp. 347-352.

<sup>7</sup> E. Burgess and H. Locke, *The Family*, New York: American Book Co., 1945, p. 69.

<sup>8</sup> E.g., "Do the members of the family agree on what it is most important to spend your money for? — agree completely — agree very closely, — agree fairly well, — disagree somewhat, — disagree very much."

"Do the members of your family like to hear about each other's experiences? — a great deal, — frequently, — sometimes, — seldom, — never."

"Do the members of your family cooperate with each other in trying to get things you all

of those patients at Firlands from whom completed questionnaires were received.

A total of 284 respondents are included representing, 232 families, there being 52 couples. Of the total number of respondents, 171 are in the Seattle group and 113 in the Firlands group. Of the couples, 25 are in the Seattle group and 27 in the Firlands group. Of the total number of respondents, 97 are husbands and 187 are wives.

#### ANALYSIS

*The Scales.* The first step in the analysis of the responses was to test the scalability of the measures of the eight indicators of solidarity. Following usual scale analysis techniques, estimated coefficients of reproducibility were computed on the basis of trial weights for each of them. The estimated coefficients are:

Agreement with each other.....	87.1
Cooperation with each other.....	89.3
Concern for each other's welfare.....	90.0
Enjoyment of association with each other..	91.8
Affection for each other.....	89.7
Esteem or admiration for each other.....	86.0
Interest in each other.....	93.0
Confidence or trust in each other.....	90.9

Final coefficients of reproducibility were not calculated according to the usual method, but it seems reasonable to suppose that almost all of these would be very close to or more than 90 per cent. Two facts must be taken into account, however, in appraising these coefficients; (a) the responses of the individuals to the items were dichotomized though there were five response categories for each of the items in the questionnaire; and (b) there are only five items in each of the scales.

After computing the estimated coefficients of reproducibility, scale types were derived for each of the eight measures, using the "H technique" recently described in an unpublished monograph by Professor Stouffer and others at the Laboratory of Social Relations at Harvard. Three "contrived items" were used giving four scale types for each of the measures. In none of these eight scales were there more than three, and in two of them there were no respondents who did not conform to one of the scale types. Computed according to the H technique all of the coefficients of reproducibility for

these eight scales are over 99 per cent. These coefficients, however, cannot be compared directly with those derived by the Guttman scaling techniques and should not be thought of as such. Scores for each of these indicators of solidarity were assigned to individuals on the basis of these scale types and the sum of these eight scores was taken as the individual family's solidarity score.

*Relationship of the Indicators to Each Other.* Coefficients of mean square contingency were computed between each of the indicators of family solidarity and every other one to see what relationship exists between them. The corrected<sup>11</sup> coefficients of contingency ranged from .56 (between Agreement with each other and Concern for each other's welfare) to .74 (between Cooperation with each other and Concern for each other's welfare). The evidence from the table of coefficients of contingency between these indicators of family solidarity points to these conclusions: (a) they are all approximately of equal usefulness as indicators of solidarity, (b) there are no clusters or groupings of these indicators, though we might have expected to find some, (c) in the absence of evidence of any more complex relationship between them we are justified in using a sum of the scores on these scales as a family solidarity score and (d) they are sufficiently high and sufficiently similar to assume that they might be scaled together.

*Family Solidarity and Marital Adjustment.* Thirteen items from Bowerman's Marital Adjustment Schedule were included in the questionnaire.<sup>12</sup> These constitute an abbreviated Marital Adjustment Scale, correlating highly with scores on the entire questionnaire from which they are taken. An estimated coefficient of reproducibility of 90.6 per cent was computed on the basis of trial weights, omitting two of the items. The H technique was applied, using six contrived items giving seven scale types. The H technique coefficient of reproducibility is 95.8 per cent. Comparing the analysis of this scale with that of the indi-

<sup>11</sup> Correction made by dividing the computed coefficient by the maximum coefficient possible for a table of the size used.

<sup>12</sup> Charles E. Bowerman, *The Measurement of Areas of Adjustment in Marriage*, unpublished Ph.D. thesis, University of Chicago, 1948.

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cators of solidarity it should be kept in mind that more items were used in the Marital Adjustment Scale and that more contrived items were used in applying the H technique. These two factors probably account for most, if not all, of the difference in coefficients of reproducibility.

Coefficients of contingency were computed between Marital Adjustment scores<sup>13</sup> and each of the indicators of family solidarity. They range from .53 to .69 and, though not much lower than the coefficients for the relationship between the indicators of family solidarity, they are with few exceptions consistently lower.<sup>14</sup>

**Reliability.** The structure of the questionnaire did not permit a split-half test of reliability, nor was a re-test made on any part of the respondents. Indirectly, reliability might be inferred by comparing the correlation between husbands' and wives' Marital Adjustment scores (in the group of fifty-two couples) and the correlation between husbands' and wives' solidarity scores. Assuming that, when husband and wife are describing their own attitudes toward each other, there should be a greater difference in their scores than when they are both describing the same thing, i.e. the behavior and attitudes of the same family, we would expect to find a higher correlation between husbands' and wives' solidarity scores than between their adjustment scores. The correlation coefficients between husbands and wives are .56 for Marital Adjustment scores and .70 for family solidarity scores, suggesting that the questionnaire has reliability.

**Validity.** Another comparison of Marital Adjustment and family solidarity scores permits an inference in regard to validity. Assuming that a measure of marital adjustment and one of family solidarity are measuring more nearly the same thing in the case of childless couples than in the case of families which include children, a closer relationship between these two scores could be expected in the first case than in the second. Coefficients of Contingency between

Marital Adjustment and each of the indicators of solidarity were computed for the childless families as they had been for all families. The coefficients for the childless families ranged from .61 to .85 with a mean of .73 as compared with coefficients of contingency ranging from .53 to .69 with a mean of .58 for the total number of families.

Another inference of validity can be made by comparing the family solidarity scores of respondents with their responses to a group of questions indicating the probability of divorce or separation. Respondents were asked to answer the question: "What would you say are the chances that you and your spouse will be divorced within the next two or three years?" with one of the following categories: "almost certain we will," "a fair chance we will," "I couldn't say," "not very likely" or "not a chance." They were also asked how often, if at all, they had threatened to leave their spouse and how often, if at all, their spouse had threatened to leave them. On the basis of their answers to these questions the respondents were separated into five categories as follows:

- (1) those who answered "not a chance" and in whose families neither spouse had made any threat to leave,
- (2) those who answered "not a chance" and either or both spouses had made at least one threat to leave,
- (3) those who answered "not very likely" and in whose families neither spouse had made any threat to leave,
- (4) those who answered "not very likely" and either or both of the spouses had made at least one threat to leave, and
- (5) those who answered "I couldn't say," "a fair chance we will," or "almost certain we will."

The mean solidarity scores progressed regularly from the highest for those in the first category to lowest for those in the last category. The difference between the mean scores of the three middle categories was found to be not significant but the difference between the highest category and the three middle categories taken together and between the three middle categories together and the lowest were found to be significant at the .01 level. Using the probability of divorce as here observed as a validity criterion, the solidarity scales seem to have validity.

<sup>13</sup> These scores were derived from the H technique scale types.

<sup>14</sup> Cf. L. Dunigan's analysis of Hill's war separation study in which a correlation of .58 was obtained between the measure of marital adjustment and the measure of family integration. (See Reuben Hill, *op. cit.*)

*Other Measures of Solidarity.* Three items adapted from the Cavan-Hill integration scale were included in the questionnaire because they dealt with types of interaction which were intentionally omitted from our solidarity scales. One of these was the question "Do you do many things together as a family?" with five response categories from "very often" to "never." There were two objections to the use of "amount of joint activity" as an indicator of solidarity; (a) it is not the being together, so much as the attitude of the individuals who engage in joint activity toward their being together, that indicates the social distance between them; and (b) some families might spend very little time together because of preventing circumstances, even though they might strongly desire to do so. The relationship between the responses to this item and the responses to the indicators of solidarity, expressed in coefficients of contingency, is only slightly less than that between the separate indicators of solidarity. In respect to the two objections stated above it would seem that, for the most part, families whose members don't enjoy associating with each other are less likely to engage in joint activity, and that respondents tended to answer this question relative to the opportunities their own particular circumstances afford.

The second of the items adapted from the Cavan-Hill scale was the question: "Are the members of your family willing to sacrifice their individual interests and desires in order to achieve *family* goals?" with five response categories from "will make any sacrifice" to "refuse to sacrifice." With its emphasis on family or group goals as opposed to those of the individual members this is an indicator of familism as defined earlier, and was for that reason omitted from the solidarity scales. In general, this item is related to each of the indicators of solidarity almost as closely as they are to each other. We might assume that most families have at least a few *family* goals, however familistic they are in other respects, and would answer this question in much the same way they would answer the questions on cooperation.

The third item adapted from the Cavan-Hill scale was the question: "Do the members of your family take pride in their

family tree and background?" with response categories from "extreme pride" to "no family pride at all." This is distinctly a familism question. The coefficients of contingency between this item and each of the indicators of solidarity ranged from .30 to .38 with a mean of .34,<sup>15</sup> much below any of the other measures of relationship involving solidarity items, and clearly suggests that some dimension other than solidarity is more prominent in the responses individuals make to it.

*Number and Age of Children in the Family.* What is the relationship between family solidarity and the number of children in the family and between solidarity and the age of children in the family? It was hypothesized that the relationship would be inverse. There is evidence supporting this hypothesis. The families were divided into (1) those with no children, (2) those with one child, (3) those with two or three children, (4) those with four or more children and (5) those whose children had all left home. Mean family solidarity scores for each of these categories were computed and the differences between them tested for significance. The highest mean score was for families with one child; next highest, though not significantly lower, was the score for families without children. Families with two or three children and those whose children had all left home were next highest and were significantly lower (at the .02 level) than the families with one child. Families with four or more children had the lowest mean score and were significantly lower (at the .02 level) than the families with two or three children.

According to age, the families were divided into (1) those with no children, (2) those with none over six years of age, (3) those with none over twelve years of age, (4) those with at least one over twelve years of age, and (5) those whose children had all left home. The mean scores for these five categories are very similar to those for the five categories according to number of children, with the families with children but none over six years of age having the highest mean score, and families with at

<sup>15</sup> Cf. Reuben Hill, *op. cit.*, p. 380. Dunigan reported  $r=.19$  for the relationship between "family pride" and his total Dynamic Stability score.

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least one child over twelve still living at home having the lowest mean score. The difference between the mean scores of these two is significant (at the .02 level) but the difference between the mean scores of those with no children over six and those with no children over twelve is not. This evidence suggests the hypothesis that family solidarity varies with the family cycle, increasing somewhat as the first child arrives, decreasing from then on as more children join the group or as they become older, until they have left home, when solidarity increases again though not to the same level as before the child-bearing, child-raising period. The confirmation of this hypothesis requires more elaborate studies.

*Distribution of Authority in the Family.* Two questions were asked in regard to the attitudes of husband and wife toward the distribution of authority in the family: (1) "Who do you feel . . ." and (2) "Who does your spouse feel should have the most to say in planning and deciding about family affairs?" A combined score for the family was taken from the responses to these two questions. The respondents were divided into three categories: (1) those tending to favor dominance by the husband, (2) the equalitarian ones, and (3) those tending to favor dominance by the wife. The mean solidarity score was highest for the equalitarian families, though not significantly higher than that for the families tending to favor dominance by the husband. Significantly lower (at the .01 level) than the mean scores for the other two categories was the mean solidarity score for the families tending to favor dominance by the wife. This suggests the hypothesis that, while husband dominance or attitudes favoring it is seldom symptomatic of the loosening of the wife's ties to the family, dominance by the wife, or attitudes favoring it, is symptomatic of the loosening of the husband's ties to the family.

#### SUMMARY

Family solidarity is defined here as the closeness of family members to each other and is assumed to be observable in a number of different types of interaction, eight of which are regarded as useful indicators of solidarity.

Eight scales were constructed, each measuring one of these indicators of solidarity. There is evidence from the analysis of these scales that they are useful in discriminating between individuals on the continuum we call solidarity.

There is some evidence that these scales are both reliable and valid.

The correlations between these indicators of family solidarity are all moderately high.

The correlations between these indicators of family solidarity and marital adjustment are slightly less than those between the indicators themselves.

Questions on the amount of joint activity in families and on the willingness of members to sacrifice for family goals correlate almost as highly with the indicators of family solidarity as they do with each other. The correlation between a measure of family pride and the indicators of solidarity is so low as to suggest its exclusion from a measure of solidarity.

The relationships between family solidarity and the number of children in the home, and between family solidarity and the age of children, appear to be inverse with the exception that with the coming of the first child, and while the children are very young, family solidarity is a little greater than prior to the coming of the first child.

Family solidarity is significantly greater in families favoring authority equally distributed between the husband and wife, and in families tending to favor dominance by the husband, than in families which tend to favor dominance by the wife.

## TESTING MESSAGE DIFFUSION IN FOUR COMMUNITIES: SOME FACTORS IN THE USE OF AIRBORNE LEAFLETS AS A COMMUNICATION MEDIUM

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"PROJECT REVERE" is a long-range research program being carried out by the Washington Public Opinion Laboratory of the University of Washington. The project, under contract to the Air University of the Human Resources Research Institute of the United States Air Force, is designed to gain information about the more effective use of airborne leaflets as a communication medium. Such leaflets have been used in psychological warfare to diffuse messages to populations where the usual media of communication are not available.

In the present study, the *community* is defined as the unit of observation, or experimental "subject." The problem of the investigation is to determine the extent of community or group response when both the *stimulus intensity* (ratio of leaflets per person) and the *number of repetitions* (defined as the number of consecutive daily leaflet drops), are varied. The *response* under study is simply the proportion of the population that learns the message on the leaflets.

Stimulus intensity can be varied by increasing or decreasing the number of leaflets per person used on a given community, and number of repetitions can be controlled by dropping the leaflets on consecutive days for as many times as desired. And, if the response to the leaflets (as defined above) can be viewed as an index of the impact or effect of the drop, stimulus intensity and number of repetitions can be systematically varied and the communities can be examined to determine the relationships between the experimental variables and the effect achieved.

To determine these relationships, two rather simple working hypotheses are considered: (a) a "high" ratio of leaflets per person (16/1) will produce a significantly greater response than a low ratio (4/1), and (b) several consecutive daily leaflet

drops will produce a significantly greater response in a community than a single drop, where the total number of leaflets used is the same in both cases.

Such simple hypotheses are capable of acceptance or rejection on a statistical basis, and furnish a framework for the study. Two concepts<sup>1</sup> from elementary psychology suggested analogically that the relationships under study might be described by simple curves. These psychological concepts were used only as sources of hypotheses, and are not intended as explanatory principles.

In order adequately to test the hypotheses it was necessary to set up the experimental design to minimize the effect of other variables which can influence community response to a leaflet message. For this reason four experimental towns, and one pilot study town, were selected. All are close to 1000 in population and none are satellites of a metropolis; all are relatively distant from large neighboring towns. The communities are all geographically quite similar, in that they are flat and not bisected by major barriers such as rivers, and the like. The populations of the communities are engaged in similar occupational pursuits—each of the towns is in an agricultural and lumbering center.

A suitable leaflet containing a Civil Defense message was designed with the cooperation of the State Civil Defense Director, who allowed the experiment to be carried out as a Civil Defense test of emergency communication. To measure the response, a questionnaire was designed and the entire procedure was pretested in a pilot study on a community similar to the four experimen-

<sup>1</sup> The well-known Weber-Fechner function and the simple decreasing-increment learning curve, where learning of material increases at a decreasing rate over number of repetitions, were sources of the hypotheses for the possible shape of the stimulus-intensity-vs.-response curve and the repetitions-vs.-response curve in the present case.

tal towns. From the data obtained in this pretest, improvements were made in wording of both the leaflet and the questionnaire. The revised leaflet contained the following message:

One visit from an ENEMY BOMBER could send evacuees pouring into your town. . . . If such a disaster occurred . . .

*How many refugees could you take into your home?*

A Civil Defense representative will call to get your answer. Be sure to talk it over with your family and friends so every one in this community will have heard about this. A friendly airplane dropped this leaflet just as it might do in an emergency when the usual means of communication are not available.

(signed) D. E. Barby  
State Civil Defense  
Director

This leaflet, a 5 x 8 inch card, is printed on both sides in black letters on yellow stock, and, at the top of the page, has a drawing of a bomber from which several bombs had been released. The words "Enemy Bomber" appear in large bold type, and the main idea of the message, "The number of refugees that could be taken into a home," is emphasized by bold print.

After the leaflet and questionnaire had been suitably improved the major experiment with the four previously selected towns was carried out. The treatments were assigned randomly to the four subjects as follows:

I. Repeated Drop:

- a. Town A (low leaflet ratio)
- b. Town B (high leaflet ratio)

II. Non-Repeated Drop:

- a. Town C (low leaflet ratio)
- b. Town D (high leaflet ratio)

The repeated dropping of leaflets consisted of three consecutive daily leaflet drops. The original design of the experiment called for the high leaflet ratio to consist of 16 leaflets per person, and the low ratio to be 4 leaflets per person. These were the ratios actually dropped on the single, or non-repeated towns. Inclement weather interfered with a fourth drop planned for the repeat-drop towns and as a result the high ratio for the repeat-drop towns was 12 leaflets per person, while the low ratio was 3 leaflets per person.

Five days after the first leaflets were dropped, teams of interviewers polled the four communities to measure the response. One interview was made at each household in the town, and an effort was made to interview the head of each family. A total of 1118 interviews was completed. These were distributed among the four communities as follows: Town A, 254; Town B, 343; Town C, 269; Town D, 251. The groups interviewed were nearly two-thirds housewives in all of the four cases. While such a sampling technique does not yield a representative sample for any given town, it is adequate for the comparative type of analysis used in the investigation.

The "response" of the community was measured in several ways with the use of the pretested questionnaire. A number of specific types of behavior toward the leaflets on the part of the respondents were identified by the questions listed below, and the proportions of persons involved in each type were determined for each community. The questions used were:

1. What do you remember about the message on the leaflets?
2. How did you *first* learn what the message was?
3. Did you actually read one of the leaflets?
4. Did you have one of them in your house?

The response of most interest to the leaflet dropper is that of "knowing the message" on the leaflets. From the pilot study data it was possible to select a set of four "earmarks," or criteria of knowing the message. The answers to the first question, above, were recorded verbatim by the interviewers and later examined by a set of judges; if at least one of the "earmarks," or criteria of knowing the message, appeared in the recorded reply to the first question, the respondent was judged to be a knower of the message. The second item was treated in somewhat the same manner. A set of judges examined the verbatim replies of the respondents and from a previously determined code system classified them according to whether they had: (1) picked up a leaflet, (2) learned the message by hearing it from another person, or (3) learned the message by reading the leaflet. The third question allowed an identification of those

respondents who had read a leaflet at any time, and the remaining question identified those who had a leaflet in their home. In addition to the above items a *time* question was asked that requested from each respondent the day and hour that he had first learned the message. Certain Civil Defense information was also gathered.

The results gave sufficient data for testing the two simple hypotheses stated previously. The high ratios of leaflets per person produced a greater response when dropped on the communities than did the low ratios; in the low-ratio communities an average of 35 per cent of the respondents knew the message and an average of 64 per cent of those interviewed in the high-ratio towns knew the message. This difference between response percentages is significant above the one per cent level of confidence.

When comparing the communities on the basis of number of repetitions of the leaflet drops, the average proportion of knowers for the single-drop towns was 46 per cent, while the average for the repeat-drop towns was 55 per cent. This indicates that three repetitions of the stimulus increased the response significantly (above the one per cent level of confidence), even though 25 per cent fewer leaflets were used in the repeat-drop towns.

In addition, an examination was made of the cumulative increases in the proportion of persons who learned the message during the six experimental days. In the single-drop towns, over 93 per cent of the persons who eventually knew the message learned it on the first day, and increases in the number of knowers after the first day were very small. In the repeat-drop towns, where 25 per cent fewer leaflets were used, the effect of repetition can be seen by the gradual rise in the response curve. An average of 55 per cent of the respondents eventually knew the message in the repeat-drop towns, but on the first day just over half learned the message. The remaining days show a more gradual rise of the curve until it crosses and rises above the cumulative response curve of the single-drop towns.

In general, the results seem to suggest that every additional repetition increased the learning that took place, but with

## Cumulative Response Curves

A COMPARISON OF THE DAILY INCREASES IN RESPONSE FOR REPEATED AND SINGLE DROP COMMUNITIES

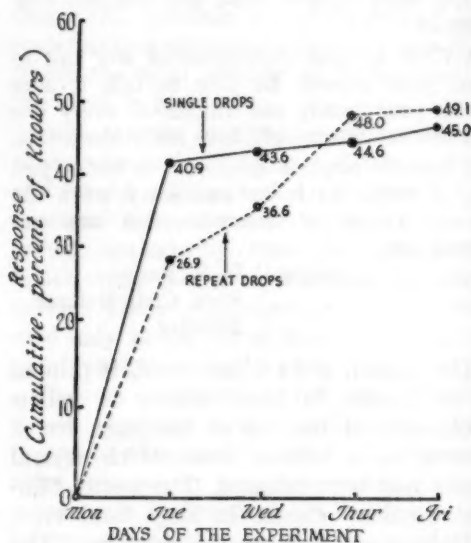


FIGURE 1

smaller and smaller increments. A great deal of further experimentation would be needed to verify this hypothesis, and it is merely stated here as the most likely type of relationship that would be found in such a situation.

From the responses to the question, "When did you first learn the message on the leaflets?", it was possible to plot the proportion of the respondents who learned the message on Monday, the first day of the experiment. Since there was but one leaflet drop made in each community on this day, these responses are not influenced by the repetition variable. The repeat-drop communities had received a ratio of one leaflet per person and four leaflets per person respectively on the first day, while the single-drop towns had received four leaflets per person and 16 leaflets per person, respectively. This allowed a response curve to be drawn for three values of the leaflet ratio. With a one-to-one ratio, 18 per cent of the respondents learned the message on the

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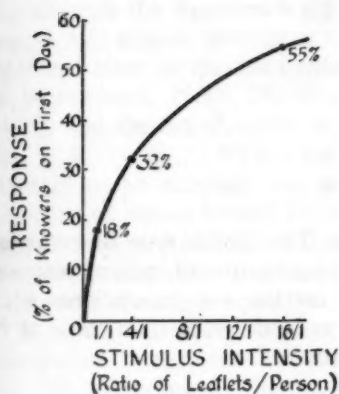
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## STIMULUS INTENSITY &amp; RESPONSE



THE RELATIONSHIP BETWEEN THE NUMBER OF LEAFLETS-PER-PERSON AND THE RESPONSE, ON THE FIRST DAY, ONLY

FIGURE 2

first day; with the four-to-one ratio, the average response about doubled to 32 per cent. Thus a fourfold increase in the intensity of the stimulus somewhat less than doubled the response. Then in the remaining community where a 16 to 1 ratio was used the response rose to 55 per cent; this again is somewhat less than double the previous value while the intensity of the stimulus increased fourfold again.

Of course a curve of only three points is inadequate for rigorous interpretation of any type of relationship, but the observed results suggest that a logarithmic increase in stimulus intensity was necessary to produce an arithmetic increase in effect (response of knowing the message). It is of

interest to note that the shape of the curve describing this relationship is similar to that of the Weber-Fechner function of sensory psychology. The mechanisms behind the two relationships, however, are vastly different.

The remaining measurements of response, made by determining the proportions of persons involved in the related behavior, tend to confirm the simple hypotheses being tested, in that the high ratios gave consistently larger proportions of persons in the towns who had picked up a leaflet, read it, and had a leaflet in their home. This was also true of the triple-drop towns when compared to single-drop towns. In each case the triple-drop towns had larger proportions of persons picking up leaflets, reading them, and taking them home.

Table 1 shows the proportions of persons involved in five types of response to the leaflet stimulation. The table is simply a summary of responses on five indices of behavior, and is intended to illustrate the consistency of the rank order relationship of the behavior in all the treatments.

There was actually a negligible amount of purely oral message diffusion in the four communities. As this was also true of the pilot study town it becomes obvious that in order to increase the communication of a message of this type to such populations one must distribute the leaflets in such a manner that they will be available to every person. From the data on stimulus intensity and stimulus repetition it can be seen that to *maximize* the probability that every person in a community will be communicated to, it is necessary to use an intense stimulus (high leaflet ratio) and repeat the stimulation (make several consecutive drops).

TABLE 1. PER CENT\* OF RESPONDENTS INVOLVED IN FIVE TYPES OF RESPONSE TO LEAFLETS

Responses	Low Leaflet Ratio		High Leaflet Ratio	
	Single-Drop Town	Triple-Drop Town	Single-Drop Town	Triple-Drop Town
1. Picked up a leaflet	18	19	27	50
2. Had a leaflet in home	21	28	47	54
3. Learned the message by reading the leaflet	24	33	54	58
4. Read leaflet at any time	27	37	59	62
5. Knew leaflet message	30	41	63	65

\* Percentages based on the number of respondents in each of the four communities.

# TIME AND POPULATION SAMPLING APPLIED TO THE ESTIMATION OF EXPENDITURES OF UNIVERSITY STUDENTS \*

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AND

JULIUS A. JAHN

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THE estimation of expenditures and other social variables that require relatively long periods of time for their determination and application, are particularly subject to four types of errors: (1) Errors due to incompleteness of the subjects recall over preceding periods of time; (2) Errors due to incomplete recording by subjects in keeping records over long periods of time; (3) Errors due to the use of estimates for one period of time to apply to later periods of time; and (4) Errors due to the use of parameters estimated for the total population for the prediction for individuals within the population.<sup>1</sup> The purpose of the present study is to demonstrate an application of statistical methods of sampling and estimation to control such errors. The first type of error was controlled by the use of a "recording" method instead of a "recall" method for enumerating expenditures of individuals. The second type of error was controlled by using sub-periods of one week, instead of the entire period of one quarter, as the period for which records were to be kept. The third type of error was controlled by using all the weekly sub-periods as "strata" within which random samples of individuals were selected to keep records covering the week for which they

were chosen. The fourth type of error was controlled by the use of parameters estimated for certain sub-populations which were found to be different from those of the total population.

## DEFINITION OF THE PROBLEM

### A. The Given Conditions.

1. *Definition of the Universe of Study.* The population studied included all unmarried individuals registered as students at the University of Washington for the Winter Quarter of 1951,  $I:1, 2, 3 \dots i \dots N(I)$ . The variables for which estimates were to be obtained included: (1) Expenditures by any student for items on a quarterly basis, e.g., Tuition and fees,  $X(i)$ ; (2) Expenditures during the winter quarter by a student for items on a monthly basis, e.g., board and room,  $Y(i)$ ; (3) Expenditures for a given week ( $t$ ) by any student ( $i$ ) for items other than those paid on a quarterly or monthly basis, and other weekly or daily expenses, e.g., clothing, entertainment,  $Z(it)$ ; (4) The total expenditure for the  $t$ 'th week and the  $i$ 'th individual, including one tenth of the quarterly and one fourth of the monthly expenditures within each week,  $S(it)$ . For the purposes of this study, the Winter Quarter was sub-divided into ten periods, each seven days long, beginning with a Wednesday and terminating with the following Tuesday. The following variables and sub-classes were used to define sub-populations of students within which estimates were to be made: (5) Sex: Male, Female; (6) College: Arts and Science, Business Administration or Education, Graduate, Other; (7) Academic Year: Freshman, Sophomore, Junior, Senior, Graduate; (8) Employment: Work for pay, room, board: Yes, No; and (9) Residence: a. Parents, friends, guardians, b.

\*The writers are indebted to Dr. George Sabagh for criticisms and suggestions relative to the preparation of the present paper. The study reported is based on results of research carried out by Maurice Van Arsdol and presented as an M.A. thesis, *The Expenditures of Unmarried Students at the University of Washington for the Winter Quarter, 1951*.

<sup>1</sup> Cf. W. E. Deming, "On Errors in Surveys," *American Sociological Review*, 9 (August, 1944), pp. 359-69; and Z. W. Birnbaum and Monroe Sirken, "On the Total Error Due to Non-Interview and to Random Sampling," *International Journal of Opinion and Attitude Research*, 4, pp. 180-191, for systematic discussions of such errors in surveys.

University residence halls or dormitories, c. Fraternity or sorority house, d. Other.

2. *The Available Information.* A list of all students in the defined population was available through the Registrar's office, with the exception of a small number of students who registered after the quarter began. Using this list of students,  $I^*: 1^*, 2^*, 3^* \dots i^* \dots N(I^*)$ , and the list of weeks in the quarter,  $T: 1, 2, 3 \dots t \dots N(T)$ , the universe of elements to be sampled was defined to be the series of points formed by the combinations of each ( $i^*$ ) and ( $t$ ). The total number of such combinations or sampling points ( $i^*t$ ) were therefore equal to  $N(I^*)$  times  $N(T)$ . This series of sampling points was sub-divided into strata,  $K: 1, 2, 3 \dots k \dots 10$ , according to the week associated with the sampling point. Within each stratum, a sample of  $n(k)=30$  students was selected by use of a table of random numbers to satisfy the condition of "simple random sampling without replacement" both within and between strata. That is, the probability of selection of each student in the population for any position in the sample was equal to that of any other student not previously selected, but once selected the probability of selection in a later position was equal to 0. Consequently, any student could be included only once in any one and only one subsample. The weekly expenditures of students included in the sub-samples were enumerated only for the week defining the stratum within which the particular subsample was selected, so that the identification number for the weekly strata corresponds to the identification numbers for the sub-samples. This "time and population" sample design was applied to obtain two different samples, one to be called the "recall sample" the other the "recording sample." Each of these samples included a total of 300 students, a number that was decided upon in order to be able to enumerate the samples with at least 90 per cent completeness with the available time and resources.

Students in the "recall sample" were interviewed immediately after the week for which their weekly expenditures were to be enumerated, and were asked to answer a questionnaire covering an itemized account of expenditures and other variables without being previously requested to keep a record of such information. Students in the "record-

ing sample" were first interviewed immediately before the week for which their weekly expenditures were to be enumerated, and were asked to answer a questionnaire covering the same variables except for their weekly expenditures. For the weekly expenditures, these students were given a form and instructions for keeping a record of expenditures during the week for which they had been selected, excluding the monthly and quarterly expenditures. Students were requested to return these forms immediately after the week was completed, and those who did not do so were requested an additional number of times until they had either left the University or definitely refused by the time the study was terminated.

3. *Statistical Principles and Methods for Analysis.* The data obtained from these samples were to be used principally to derive estimates of frequencies and mean values of variables for students in the defined population during the winter quarter of 1951. These estimates were to be "unbiased" point estimates, and the variance of the estimate was to be the measure of random sampling errors.<sup>2</sup>

The equations shown in Figure 1 were used to obtain these unbiased estimates.

In addition, the sample data were to be used to test a number of hypotheses that were involved in making decisions concerning alternative methods and conditions of sampling and estimation that could be used in this study. The "normalized  $t$ " and the "chi-squared" probability distributions were used in constructing statistical tests of these hypotheses, conforming to the general rules of Neyman and Pearson.<sup>3</sup>

4. *Applications of Results.* The following rules were defined for the application of results of the study to make a number of decisions concerning alternative conditions and methods of sampling and estimation.

<sup>2</sup> Cf. F. Yates, *Sampling Methods for Censuses and Surveys*, New York: Hafner, 1949, especially Chapter 2, for a thorough treatment of bias and random sampling errors.

<sup>3</sup> Cf. J. Neyman, *First Course in Probability and Statistics*, New York: Henry Holt, 1950, Ch. 4 and 5, for a discussion of the general theory for testing hypotheses and for the "Normalized  $t$ " distribution, and Palmer Johnson, *Statistical Methods in Research*, New York: Prentice-Hall, 1949, pp. 94-96 for the "Chi-squared" distribution as used in this study.

FIGURE 1. Equations for Estimation from the Defined Time and Population Sampling Design

- (1) For the estimation of frequencies in defined sub-classes of a variable:

Given:  $N$  = the total number of individuals in the defined population, $N_c$  = the total number of individuals in a defined sub-class of the population, $P_c = N_c/N$ , $P'_c$  = an unbiased estimate of  $P_c$ , $n_{ck}$  = the number of individuals in the  $k$ 'th sub-sample who are included in the defined sub-class, $n_k$  = the total number of individuals in the  $k$ 'th sub-sample,

$$\text{Then: } P'_c = \frac{\sum_{k=1}^{10} n_{ck}}{\sum_{k=1}^{10} n_k} \quad (\text{Equation 1}).$$

- (2) For the estimation of mean values of expenditures sub-classified according to the period covered:

Given:  $\bar{A}$  = the true mean value of the expenditures in a certain category for all students in the defined population, $\bar{A}'$  = an unbiased estimate of  $\bar{A}$ , $a_{ik}$  = the amount of expenditures in a certain category reported by the  $i$ 'th student in the  $k$ 'th sub-sample,

$$\text{Then: } \bar{A}' = \frac{\sum_{k=1}^{10} \sum_{i=1}^{n_k} a_{ik}}{\sum_{k=1}^{10} n_k} \quad (\text{Equation 2}).$$

- (3) For the estimation of the mean values for the total expenditures, combining all categories:

Given:  $X_i$  = the total quarterly expenditures for the winter quarter for the  $i$ 'th student in the population, $Y_i$  = the total monthly expenditures for the winter quarter for the  $i$ 'th student in the population, $Z_i$  = the total weekly expenditures for the winter quarter of the  $i$ 'th student in the population, $S_i = X_i + Y_i + Z_i$ , $\bar{S} = S_i/N$ , $\bar{S}'$  = an unbiased estimate of  $\bar{S}$ , $q_{ik}$  = the amount of quarterly expenditures reported by the  $i$ 'th individual selected in the  $k$ 'th sub-sample, for the winter quarter, $m_{ik}$  = the amount of the monthly expenditures reported by the  $i$ 'th individual in the  $k$ 'th sub-sample, for the winter quarter, $w_{ik}$  = the amount of the expenditures reported by the  $i$ 'th individual in the  $k$ 'th sub-sample, for the  $j$ 'th week, $s_{ik} = q_{ik} / 10 + m_{ik} / 4 + w_{ik}$ ,

$$\text{Then: } \bar{S}' = \sum_{k=1}^{10} \left[ \frac{\sum_{i=1}^{n_k} s_{ik}}{n_k} \right] \quad (\text{Equation 3}).$$

- (4) For the estimation of the Variance of
- $\bar{S}'$
- .

$$\text{Given: } \bar{s}_k = \frac{\sum_{i=1}^{n_k} s_{ik}}{n_k}$$

$$\text{Then: The estimated variance of } \bar{S}' = \sum_{k=1}^{10} \left[ \frac{\sum_{i=1}^{n_k} (s_{ik} - \bar{s}_k)^2}{n_k(n_k - 1)} \right] \quad (\text{Equation 4}).$$

(1) At a certain period of time after the final week of interviewing, hypotheses were to be tested concerning the proportion of students in the population who, after being initially contacted, would refuse to cooperate or would not return their records. If this proportion was found to be .10 or less, then the interviewing and enumeration would be stopped and the sample data obtained would be used for estimation purposes. If this proportion was found to be

greater than .10, the interviewing and enumeration would be continued until a later period of time in order to satisfy this condition. (2) The estimates could be derived from either or both the "recall" or the "recording" samples. If the hypotheses that the estimated parameters were the same for each method of enumeration were true, then the sample data from both methods or from the "Recall" method alone would be used. If the hypotheses that the

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parameters for the two methods were not equal were true, then the "recording" data would be used. (3) The estimates could be derived for either the total population only, or for the various defined sub-populations in addition. If the parameters estimated for the sub-populations were the same as for the total population, then it would not be necessary to estimate them in addition to those for the total population. If the parameters for the sub-populations were different from those for the total population, it would be necessary to estimate these parameters for the sub-populations as well as for the total population in order to reduce errors of predictions based on the use of these parameters.

The estimates derived by these methods and conditions from the sample data were to be used by the Office of Student Affairs at the University of Washington in the advising and counselling of students. In addition, estimates were to be derived relative to the variance of the estimated values in order to arrive at some suggestions or hypotheses concerning methods or conditions that could be used in future research in order further to reduce the various errors involved in sampling and estimation of student expenditures.

#### B. Questions to Be Answered by the Planned Research.

The results of the planned research were to be analyzed to obtain answers to the following specific questions: (1) Will the use of time-sampling periods of one week reduce the percentage of persons in the population who will not complete and return a record of expenditures to 10 per cent or less? (2) Will the relative frequency distributions for expenditures of students who keep records for one week differ from those of students who recall their weekly expenditures? (3) Will the relative frequency distributions for expenditures of students within defined sub-populations differ from those of students within other sub-populations classified according to sex, college, academic year, employment, or place of residence? (4) What are the estimated values of the means and frequency distributions of expenditures for students in the defined populations or sub-populations, derived according to the assumptions and methods

decided upon? (5) How can the sampling and estimation methods used be revised for future research studies in order to reduce the various type of error involved in estimating expenditures.

#### HYPOTHESES TO BE TESTED

Prior to the beginning of interviewing, certain assumptions involved in the planning of the study were formulated as hypotheses to be tested by appropriate statistical analyses of the obtained sample data. (1) The number of students who refuse or do not complete and return records of expenditures for one week will be 10 per cent of those initially requested to do so. (2) The relative frequency distributions of expenditures for the students who keep records will be equal to those for students who recall their weekly expenditures. (3) The relative frequency distributions of expenditures of students within defined sub-populations will be the same as for other sub-populations classified according to sex, college, academic year, employment, or place of residence. No hypotheses were formulated prior to examination of the data relative to the particular values to be estimated, or to the methods for the further reduction of error.

#### EXPERIMENTAL-STATISTICAL TESTS OF HYPOTHESES

The hypothesis that the number of students who refuse or do not complete and return records of expenditures for one week will be 10 per cent of those initially requested to do so, was tested by an application of the "normalized-t" distribution to the obtained sample data. The hypothesis was to be rejected if the number of students in the sample who refused or did not return completed records for one week was greater than 10 per cent of those who were initially interviewed or "available" for recording this information. The limiting value for rejection of the hypotheses was chosen to correspond to a .05 probability of rejection of a "true" hypothesis. Assuming a normal probability distribution, the hypothesis was to be rejected if the obtained value for "t" equals or is greater than +1.64. The result of the test, as shown in Table 1, was that the obtained value of "t" equaled -1.71 so that the hypothesis was not rejected.

TABLE 1. THE NUMBER AND PER CENT OF STUDENTS IN THE SAMPLES CLASSIFIED ACCORDING TO THE REASONS FOR NOT BEING ENUMERATED

Reasons for Non-Enumeration	Recall Sample			Recording Sample		
	No.	Per Cent of Original Sample	Per Cent of Available Sample	No.	Per Cent of Original Sample	Per Cent of Available Sample
(1) Married	5	1.7	---	3	1.0	---
(2) Left School	5	1.7	---	4	1.3	---
(3) Not located	9	3.0	---	6	2.0	---
(4) Refused to answer	3	1.0	1.1	2	0.7	0.7
(5) Record not returned	--	---	---	20	6.7	7.0
Total not enumerated	22	7.3	1.1	35	11.7	7.7
Total enumerated	288	92.7	98.9	265	88.3	92.3
Total in original sample	300	100.0	---	300	100.0	---
Total in available sample (excluding 1, 2, and 3)	281	---	100.0	287	---	100.0

The hypothesis that the relative frequency distributions of expenditures for students who kept records will be equal to those for students who recall their weekly expenditures was tested by use of the "chi-squared" distribution. The relative frequencies were compared separately for three sub-categories of quarterly expenditures, five sub-categories of monthly expenditures, and eleven sub-categories of weekly expenditures. For each of these sub-categories, the hypothesis that there was no difference was tested by computing a "chi-squared" value with the "expected frequencies" equal to the product of the marginal frequencies

and the sample size, and rejecting if the obtained value exceeded a limiting value selected so that there would be a .05 probability of rejecting a true hypothesis. For the total expenditures, the hypothesis was to be rejected if more than .05 of the hypotheses concerning expenditures for sub-categories of expenditures were rejected. The results of these tests as shown in Table 2, were that the hypotheses were rejected for three of sub-categories of weekly expenditures, and since these were more than .05 of the 19 sub-categories tested, the hypothesis was also rejected for the total expenditures.

TABLE 2. RESULTS OF CHI-SQUARED TESTS OF THE HYPOTHESES THAT THERE WERE NO DIFFERENCES IN THE RELATIVE FREQUENCY DISTRIBUTIONS FOR EXPENDITURE VARIABLES BETWEEN THE RECALL AND THE RECORDING SAMPLES

Type of Expenditure Variables	Number of Variables For Which Hypothesis Was Tested	Number of Variables For Which Hypothesis Was Rejected
Quarterly expenditures	3	0
Monthly expenditures	5	0
Weekly expenditures	11	3
Total	19	3

The hypotheses that the relative frequency distributions of students within defined sub-populations will be the same as for other sub-populations classified according to the personal variables: sex, college, academic year, employment, or place of residence, were also tested in the same manner by the use of the "chi-squared" distribution with a .05 probability of error in

the data obtained for the "recording sample" were used for the estimation of the expenditures of students in the various sub-populations as well as for the total population. The derived estimates for the mean of the total expenditures are presented in Table 4, for the total population as well as for the defined sub-populations. The sampling error for the estimated value of the mean total

TABLE 3. RESULTS OF CHI-SQUARED TESTS OF THE HYPOTHESES THAT THERE WERE NO DIFFERENCES IN THE RELATIVE FREQUENCY DISTRIBUTIONS FOR EXPENDITURE VARIABLES BETWEEN SUB-POPULATIONS CLASSIFIED ACCORDING TO PERSONAL VARIABLES

Sub-Populations Classified According To Personal Variables	Type of Expend- iture Variables	Number of Vari- ables For Which Hypothesis Was Tested	Number of Vari- ables For Which Hypothesis Was Rejected
Sex	Quarterly	3	2
	Monthly	2	0
	Weekly	11	1
	Total	16	3
College	Quarterly	3	0
	Monthly	2	1
	Weekly	11	1
	Total	16	2
Academic Year	Quarterly	3	1
	Monthly	2	2
	Weekly	11	2
	Total	16	5
Employment	Quarterly	3	0
	Monthly	2	1
	Weekly	11	3
	Total	16	4
Place of Residence	Quarterly	3	1
	Monthly	2	2
	Weekly	11	4
	Total	16	7

rejecting a "true" hypothesis. However, the number of sub-categories of weekly expenditures were reduced to 2 instead of 5 for these tests. The results of these tests as shown in Table 3, were that the hypothesis of "no difference" was rejected for each of the personal variables used to define the sub-populations.

#### ESTIMATES OF EXPENDITURES OF STUDENTS

On the basis of conclusions reached from the results of the tests of these hypotheses,

expenditure for the total population as measured by variance of the estimate was estimated to be equal to 2006. The corresponding standard deviation of the estimate was estimated to be equal to 45, and the coefficient of variation (the ratio of the standard deviation of the estimate to the estimated value) was found to be equal to 9 per cent of the estimated value. The estimates of the means for various categories of expenditures are shown in Table 5 for males, females, and for the total population.

## IMPLICATIONS FOR FURTHER RESEARCH

In addition to providing answers to the specific questions defined for study, the results obtained have been examined to provide suggestions as to problems and hypotheses for further research. The following suggestions have been arrived at in regard to problems involving the further reduction of various types of errors:

the time use in time-sampling can be reduced from one week to one day in order to decrease errors due to incomplete recording of expenditures still further. This was suggested by the difficulties experienced in getting the students to complete and return schedules for one week.

Third, when sub-periods as short as one day are used, the "recall" method can be

TABLE 4. ESTIMATES OF MEAN TOTAL EXPENDITURES FOR WINTER QUARTER 1951 FOR UNMARRIED STUDENTS AT THE UNIVERSITY OF WASHINGTON

Student Classification	Estimates of Mean Total Expenditure
All students	\$501
<u>Sex</u>	
Male	544
Female	435
<u>College</u>	
A. and S.	503
B.A. and Education	495
Graduate	560
Other	464
<u>Year in School</u>	
Freshman	432
Sophomore	479
Junior	485
Senior	565
Graduate	560
<u>Work for Pay, Room, or Board</u>	
Yes	515
No	494
<u>Residence Classification</u>	
Parents, friends, relatives, guardians	424
Women's residence halls or men's dorms.	532
Fraternity or sorority house	579
Other	604

First, the length of the total period of time covered can be increased to one school year instead of one quarter with very little increase in random sampling errors and with a possible decrease in errors due to applying results obtained for one quarter to estimate expenses for the school year. This is suggested by the results shown in Table 6, in that the mean expenditures for each week showed only slight variations between weeks, but with a trend toward higher means toward the beginning and the end of the quarter.

Second, the length of the sub-periods of

used instead of the "recording" method without any differences in results obtained. This was suggested by the results for the two types of recording being not markedly different even for weekly periods.

Fourth, the number of sub-samples can be reduced and the number of individuals in each sub-sample can be increased with a given sample size by the random selection of a sample of sub-periods of time and then by random selection of a sample of individuals to be enumerated only within the sampled sub-periods of time instead of for all sub-periods, with a reduction of the

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overall sampling errors. This use of a "cluster sampling" design was suggested by an "analysis of variance" performed on the data given in Table 6 which indicated that the "variance between sub-periods" was smaller ( $V'_b=1890$ ) than the "variance within sub-periods" ( $V'_w=2557$ ).<sup>4</sup>

Fifth, the use of a varying size of sub-samples of students within time periods, with the sub-sample for the first week of the quarter having the largest number of

sampling errors, provided that the stratification is according to such variables as sex, college, year in school, employment, and place of residence. This was indicated by the results shown in Tables 3 and 4, which lead to the conclusions that the distributions for expenditures differed in the various sub-populations defined according to these personal variables.

Finally, the results of this study have more general implications for sampling re-

TABLE 5. ESTIMATES OF CATEGORIES OF MEAN EXPENDITURES FOR MALE, FEMALE, AND THE TOTAL STUDENT POPULATION, IN DOLLARS PER QUARTER

Category of Expenditure	Male	Female	Total
Quarterly Expenditures			
University fees	32.	46.	37.
Books and school supplies	12.	17.	14.
Clothing	30.	34.	31.
Monthly Expenditures			
Combined room and board	153.	146.	150.
Organizational expenses	36.	36.	36.
Weekly Expenditures			
Food	45.	28.	39.
Clothing	38.	29.	35.
Laundry and cleaning	8.	6.	8.
Medical	31.	22.	28.
Personal articles	8.	8.	8.
Transportation and mailing	53.	16.	40.
Recreation	59.	26.	47.
Books and school supplies	7.	5.	6.
Contributions and gifts	13.	13.	13.
Savings	9.	8.	9.
Other expenses	38.	23.	33.

students, the sub-samples for the next three weeks and the last week in the quarter having intermediate numbers, and the remaining weeks having the smallest numbers of students in the samples, will lead to a further reduction of sampling errors. This was indicated by the results in Table 6 showing that the variances of the estimated means in the various sub-samples varied in this manner over the quarter.

Sixth, the use of stratified random sampling instead of simple random sampling of students within time periods will reduce the

search involving other populations and variables that are dependent upon time either by definition or hypothesis. It is apparent that "time-sampling" methods can be used together with "area-sampling" in the design of sample surveys covering larger communities, states, or nations. Also "time-sampling" can be combined with population or area sampling in the investigation of variables other than expenditures, such as income, the amount of time spent in various types of activities, and the frequency of occurrence of defined types of attitudes or behavior.<sup>5</sup>

<sup>4</sup> Cf. Yates, *op. cit.*, pp. 205-212, for a discussion of the "analysis of variance" in the estimation of sampling errors as used in this study.

<sup>5</sup> Examples of such types of studies in which "time-sampling" could be incorporated with possible reduction of survey errors: Cf. The U. S.

TABLE 6. THE ESTIMATED MEANS AND VARIANCES OF MEANS FOR TOTAL EXPENDITURES OF STUDENTS IN THE UNIVERSITY OF WASHINGTON DURING WEEKLY PERIODS OF THE WINTER QUARTER OF 1951

Weekly Period	Size of Sub-Sample	Number of Completed Records	Estimated Means	Estimated Variances of Means
1.	30	28	67.	490.
2.	30	28	45.	114.
3.	30	27	56.	260.
4.	30	28	56.	406.
5.	30	27	54.	186.
6.	30	28	39.	77.
7.	30	26	47.	127.
8.	30	24	48.	114.
9.	30	24	41.	109.
10.	30	25	48.	122.
Totals	300	265	501.	2006.

The use of "time sampling" and population or area sampling (incorporating stratification, cluster sampling, optimal sampling rates, and systematic-random methods of selection) can be expected to reduce the various types of errors involved in such

National Resources Committee, *Consumer Expenditures in the United States*, Washington, D. C.: U. S. Government Printing Office, 1939; The Federal Reserve Board, "1948 Survey of Consumer Finances," *Federal Reserve Bulletin*, pp. 644-645; Carl C. Zimmerman, "Incomes and Expenditures of Village and Town Families in Minnesota," The University of Minnesota Agricultural Experiment Station, *Bulletin No. 253*, 1929, and Mary C. Crawford, *Student Folkways and Spending at Indiana University, 1940-1941*, New York: Columbia University Press, 1943.

studies to a level far below those that result from the use of arbitrarily large samples of populations at infrequent and non-randomly chosen periods of time or from the use of arbitrarily small samples of populations with complete enumerations over long periods of time.<sup>6</sup>

<sup>6</sup> The method of sampling called "panel sampling" which has been particularly applied by the Columbia University Bureau of Applied Social Research in its sample surveys is an example of such a small population sample combined with complete enumeration over long periods of time. Cf. Paul Lazarsfeld and Marjorie Fisk, "The Panel as a New Tool for Measuring Opinion," *Public Opinion Quarterly*, 2, pp. 596-612, for a discussion of this method, or Hans Zeisel, *Say It with Figures*, New York: Harper and Brothers, 1947.

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## NOTES ON RESEARCH AND TEACHING



### INDIVIDUAL DIFFERENCES AND CULTURAL UNIFORMITIES\*

ANTHONY F. C. WALLACE

University of Pennsylvania

This essay questions four commonly held and logically coherent assumptions which together make up a theoretical system called "cultural determinism," and proposes a reformulation of certain current doctrines about the relationships between culture and personality which are based on the cultural determinist system. The four assumptions are (1) that culture is an external environment uniformly perceived by and pressing upon all members of a given society, (2) that this cultural pressure determines a uniformity of behavior, including parental behavior (which largely defines the child's experience), (3) that therefore all "normal" members of a society must have the same basic personality structure ("national character"), and (4) that consequently culture can be said to mold personality. The criticism itself is not a rejection of the idea of a determinative relationship between culture and a most frequently and most closely approximated personality type, or the idea of a determinative relationship between culture and other mass social and economic phenomena. It is, however, a denial of the adequacy of general formulations and of specific research designs based on the cultural-deterministic assumption, whether explicit or implicit, that culture is a unitary, external, "super-organic" environmental force which mechanically determines and molds individual behavior and, by extension, individual personality.

The word "determine" is an ambiguous one. A class of phenomena may be regarded as being determined by certain factors directly, without intervention of other factors, as for instance in the determination of a projectile's trajectory by such variables as the angle of the tube, gravitational pull, the force of the propulsive charge, atmospheric resistance, wind deflection, and the rifling of the bore. This sort of determination approximates the classic concept of causation in specifying necessary and

sufficient conditions, both for a class of phenomena and for any specific case within that class. This may be called *mechanical determination*. But the word "determine" is often also applied to correlation data, and variables significantly correlated with a phenomenon are dubbed "determinants" of it even though the relationship may be admittedly indirect, obscure and neither necessary nor sufficient as an explanation, as when ecological zone of transition is recognized as a determinant of delinquency. What is essentially described by this sort of determinacy is a statistically significant concomitant variation of incidences, and so it may be called *probability determination*. Misunderstanding occurs, however, when the remaining problem of the "mechanical" determination of individual cases is overlooked, and a "probability" determination is interpreted as being the mechanical determination of specific events. This kind of fallacy is committed in cultural determinism, which asserts a *mechanical* determination by culture of individual event, behavior, and personality.

#### THE CONCEPT OF CULTURE

The idea of uniform behavior is implicit in the concept of culture. When an ethnographer describes the culture of a society, he is describing ways of doing things which are more or less *uniformly* used. But the careful ethnographer recognizes that this uniformity of thought, speech, and action, although substantial, is not complete. Within the society there are individual differences in age, sex, geographical location, health and constitution, social class and caste, occupation, income, personality, and so on, and in many areas of behavior the cultural uniformity extends only to the boundaries of sub-groups more or less rigidly defined on the basis of one or more of the above criteria. This may lead the ethnographer to speak of sub-societies and sub-cultures; he may refer to a "youth-culture," may say that his description refers only to urban middle class, may implicitly or explicitly exclude females from consideration. In addition to these variations, which might be called the "systematic alternatives" of a culture, there are also a number of more or less "random alternatives"—particularly in societies with competitive market economies. These

\*The leisure to formulate the ideas expressed in this essay was provided the writer by the Social Science Research Council through the agency of a Faculty Research Fellowship.

alternatives are the several acceptable ways of doing virtually the same thing available to any given person—taking a bus instead of a trolley, buying a “contemporary” house or keeping an apartment, and so on. In their finer expressions, these random alternatives are sometimes called cases of “marginal differentiation.” Coca-cola, Pepsi-Cola, and other colas would hardly go down in the ethnographer’s notebook as separate culture traits, nor would all different women’s hats, or the variations of machine-made standardized parts. And, finally, while any given culture will have recommendations ready-made for handling practically all conceivable situations, a significant quantity of human behavior does *not* accord with its proper culture at all. While this quantity is apparently very slight, in comparison with the quantity of conforming behavior, and hence is often passed off as exceptional, it cannot realistically be ignored, any more than the physicist can ignore air resistance in calculating the behavior of a falling body, even though the acceleration of falling bodies is calculated on the assumption of a vacuum. The behavior of persons suffering from neurological or emotional disorders, for instance, may be strange to their culture. Even normal people now and then do things which are not culturally predictable. People make mistakes. People do wrong or foolish things. People invent new ways of dealing with problems which are not always widely accepted. The issue, however, is not so much whether or not individual behavior approximates cultural norms—it generally does—as the recognition that it is not culture which compels, but the individual who chooses. Occasionally he chooses not to use the culturally standardized way.<sup>1</sup>

We may therefore say that the concept of culture itself, insofar as its implications of normality and uniformity are concerned, is a quasi-statistical one. A culture trait, as seen from this viewpoint, is a most frequently and most closely approximated type of behavior, a point on a distribution curve, and behavior can be called “conforming” to culture when it falls within the range of marginal differentiation around that point. One may speak thus of “cultural probabilities.” One of these is the probability that any individual with a problem will use *some* culturally recognized technique for solving it. This probability will vary according to the problem, and presumably will be rather high—let us say, arbitrarily, on the

order of .98. The probability of his use of a *specific* cultural trait for a specific problem will vary according to the number of systematic and random alternatives his culture affords for the solution of that problem, and the extent to which the given area of behavior is culturally standardized at all, and will usually be much less than the first probability. Even lower probabilities attach to the likelihood of an individual’s associates (parents, co-workers, spouse, children) presenting any given sequence of specific culturally standardized behaviors. A repetition of exactly the same sequence of behaviors in two cases, duplicating even the varieties of marginal differentiation, is evidently so improbable as to deserve being called impossible.

This argument does not involve a denial of the reality of culture, or of its importance as a probability determinant of other mass phenomena. The quasi-statistical regularities of culture certainly do exist, and are as real as other hard facts like mortality rates and cost of living indices. When one is concerned with mass phenomena, it is even correct to speak of “cultural factors” in the sense of probability determination. Thus, the fall in the net reproduction rate in the United States is demonstrably correlated (presumably in a non-mechanical determinative relationship) with, among other things, an increasingly urban concentration of the population. But *individual* behavior and *particular* events, to greater or lesser degree, may or may not exemplify the quasi-uniformities of culture, and even within the ambit of a culture may be exceedingly variable. To explain why any urban woman (or any group of urban women) has two children instead of eight, if one wishes to describe the mechanics of the case, it is obviously not sufficient merely to remark that she lives in a city. To do so would, of course, confuse mechanical and probability determination.

#### NATIONAL CHARACTER

It is possible to consider the general problem of personality formation, in the context of this discussion, without subscribing to any particular substantive theory. We may say very generally that a personality is formed as a product of the particular experiences of an individual organism. Presumably, not all experiences are equally weighty in influence; there is general agreement, the writer supposes, that the developing organism’s interaction with people are of primary significance. Within the first six years of life (which are said by many psychiatrists to be especially important, although we need not deny significance to later years), a child experiences innumerable events

<sup>1</sup> It is not necessary here to go into the philosophical question of free will. The individual’s choices may indeed be determined; the point is that they are not mechanically determined by culture.

involving people. General categories of events would include birth, feeding, being cleaned, being talked to, being left alone, weaning, bowel and bladder training, learning to talk, play, self-care, minor or major injuries or illness, and as many other items as one wishes to detail. People involved include various selections and combinations of father, mother, brothers, sisters, playmates, adult relatives, adult neighbors, and others. Considerable variation is to be expected, on the basis of the theoretical considerations presented above, and in fact undoubtedly occurs in any society in all categories of infantile experience. These variations are partly a matter of accidents like death and illness, partly of marginal differentiation within accepted cultural norms, partly of traumatically deviant behavior by parents and other associates. They are also built into the culture itself as "systematic alternatives," in many cases being correlated with occupational groups, class, region, etc., and as "random alternatives," several ways being equally acceptable and feasible. The infinite variability of experience continues throughout the individual's life. The probability that any new born infant chosen at random in any society will have any given sequence of formative experiences, when such considerable variation exists in possibilities of experience in each category, is relatively slim.

The culture thus never can present itself as a constant environment to all members of a society, as every ethnographer knows after working with more than one informant. While the cultural quasi-uniformities in themselves exist, like sex ratios, they are not equally perceived by every one. It is gross fallacy to suppose that a culture is a uniform environment for all of a population. No two members of a society carry in their heads the same picture of its culture (not even if they happen to be professional culturologists), because no two persons have had the same experiences or have selected or invented the same techniques for solving their problems. The point should be made explicit: *A culture, in its totality, is no more a part of any one's behaviorally significant environment than is the totality of his physical surroundings.*

The implications of the foregoing considerations for the relationship of culture and personality should now be generally apparent. Inasmuch as individual personality, described as a set of techniques of behavior (both overt and covert) characteristic of a person, is assumed to be formed by a highly complex history of particular events involving his interaction with a limited number of other persons, *the probability of any definable sequence of*

*formative events is equal to the probability of the emergence of a given type of personality, and the total number of individuals possessing that type of personality will be the product of that probability and the size of the population.* As previously stated, the probability of a given sequence of formative experiences is relatively low even if each component is culturally standardized; consequently the frequency of occurrence of a given national character type should be low, too.

#### A FIELD STUDY OF NATIONAL CHARACTER

In the summers of 1948 and 1949 the writer collected seventy Rorschach protocols (36 male and 34 female) from adult (age 16 and over) Tuscarora Indians resident on the Tuscarora reservation in New York State.<sup>2</sup> There were 352 adult Tuscaroras according to the writer's census of 1948, 179 male and 173 female. The sample was very closely proportional by age and sex and contained rough quotas for such categories as chieftainship, clan-membership, membership in the lacrosse team, and the like. It was not a random sample, subjects being recruited by a process of personal contact involving a few intermediaries. The total population of the reservation was approximately 600. Although there were, of course, cliques, and persons could be ranked as of generally higher or lower social status, the population was apparently too small and homogeneous for an intrareservation class system to have developed with systematic differences in behavior and limitations of social contact. Acculturation, furthermore, had proceeded so far that even the extreme proponents of nativism and assimilation respectively were not systematically different in language, religion, dress, occupation, or attitude toward the clan system and chief's council.

The somewhat naive initial hypothesis was that there would be a clearly homogeneous personality type, recognizable even by superficial inspection of the records. The problem actually became one of defining any common structure at all. There was indeed one trait, high W per cent,<sup>3</sup> held almost in common, but

<sup>2</sup> The following analysis of The Tuscarora and Ojibwa Rorschach data is an abbreviation of the more elaborate presentation made in a monograph now in press: Anthony F. C. Wallace, *The Modal Personality Structure of the Tuscarora Indians, as Revealed by the Rorschach Test*, Smithsonian Institution, Bureau of American Ethnology, Bulletin 150, Washington, D. C.

<sup>3</sup> The presence of "high W per cent" (30 per cent and above) in a protocol is conventionally interpreted to be evidence of a tendency to think in terms of abstractions rather than of concrete individual phenomena.

to describe a common structure it was not sufficient to concentrate on this one trait when fully 21 variables were under consideration. Nor was it possible simply to strike averages in all 21 categories, then interpret the pattern of the averages, and finally attribute this "type" to the whole population—a procedure which patently would have violated the fact that the subjects were *not* all alike, and would have introduced gross distortions in those variables where the distribution was asymmetrical.

The notion of a common personality structure was abandoned. In its place was put the concept of a type of personality more closely approximated by more individuals than any other type, and deducible from a knowledge of the culture, which constitutes by definition the most frequently and most closely approximated mode of experience. The term "modal personality structure" was borrowed from Cora DuBois to refer to this most frequently and most closely approximated type. For each of the 21 variables, the modal score was identified, and the standard deviation of the distribution calculated. Estimating the reliability of Rorschach test scores as .8, a function of the standard error of measurement was applied to set up limiting scores on either side of the mode, within which statistically significant differences, at the .03 level of probability, from the modal score did not exist. All 70 records were scanned, and those selected which in all 21 variables were not significantly different from the modal scores of those variables. Twenty-six individuals out of the sample of 70 were found to have produced Rorschach protocols which were not significantly different, in the above-specified terms of statistical reliability, from the modal scores in each of the 21 scoring categories. These 26 records were finally reduced to a "modal type" by calculating mean scores; the profile of means in the 21 categories of the 26 modal records was defined as the modal type, and its interpretation extended only to those 26 records (which seemed admissible, since these 26 had been operationally defined as equivalent).

While this technique manifestly did some violence to the data, in ignoring the certainty that the 26 modal records are not really equivalent, it seemed to be open to fewer objections than other techniques, and did provide a way of defining a type of personality which was demonstrably more closely approximated by more people than any other type. Obviously the decision as to the level of probability acceptable in setting up the limits of distinguishability—an arbitrary decision—affected the number of individual cases regarded as being represented by the mode, as well as the exact

mean values later calculated. But using these limits (which equaled one standard deviation on either side of the mode) it was found that only 37 per cent of the sample could be regarded as having a structure of personality not recognizably different from a modal type. Presumably such bias as the crude sampling procedures entailed meant that a truly random sample would have been even more disparate. This modal 37 per cent was not significantly disproportional in age or sex.

A second body of 102 Rorschach protocols, collected by A. I. Hallowell from Ojibwa Indians in the Lake Winnipeg, was analyzed by the same procedures for comparative purposes. It was found that 29 (28 per cent) of the 102 Ojibwa Rorschachs fell within the Ojibwa modal class. The incidence of a modal type of personality was thus of a roughly similar order of magnitude in both samples, even though there are substantial cultural differences between the two societies (the Ojibwa from whom the protocols were selected being a much less acculturated, predominantly hunting people). But there is no question that the two modal types are significantly different from one another, even though there are some common elements (which might be expected)—only 5 of 102 Ojibwa protocols fell within the Tuscarora modal class. The difference between the two most closely approximated types the writer would attribute to the cultural differences between the two populations.

#### SUMMARY

It is suggested that in considering the subject of individual differences in relation to cultural uniformities, culture can most appropriately and usefully be defined as *those ways of behavior or techniques of solving problems which, being more frequently and more closely approximated than other ways, can be said to have a high probability of use by the individual members of a society*. Culture thus is regarded as a real mass phenomenon. Culture, however, does not constitute a constant and uniformly perceived environment for all members of a society; it does not mechanically determine or prescribe individual events or historical sequences; descriptions of culture do not describe all significant actual behavior; and it does not mold any individual personality. Culture can be regarded as a determinant of the probability of occurrence of other mass phenomena, however, since culture itself is a statement of probabilities, and specifically as determining both the nature of the modal personality structure as an ideal type and the incidence of its approximate realization.

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# AN INDEPENDENT TEST OF THE INTEREST-GROUP THEORY OF SOCIAL CLASS

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In his study, *The Psychology of Social Class*, Richard Centers has attempted to demonstrate empirically that the "formative" (Marxian) theories of class are sound and valuable for predictive purposes, albeit indirectly. In doing this, Centers deduced from the broader Marxian theory his Interest-Group theory.

This theory implies that a person's status and role with respect to the economic processes of society imposes upon him certain attitudes, values, and interests relating to his role and status in the political and economic sphere. It holds, further, that the status and role of the individual in relation to the means of production and exchange of goods and services gives rise in him to a consciousness of membership in the same social class which shares those attitudes, values, and interests.<sup>1</sup>

Center's data in general support the Interest-Group theory. Because this result is such a potentially significant contribution to social class analysis, it is felt that additional empirical research on the Interest-Group theory is needed as a further test of the continued soundness of that theory. To that end the present research was designed as an independent, though only partial test of Centers' Interest-Group theory. The present writer, however, has reservations about the justification of generalizing from the Interest-Group theory to Marxian theory. This will be discussed later in this paper; the first problem is to determine the continued tenability of the Interest-Group theory.

## METHODOLOGY

The data for the analysis were collected through the facilities of the Washington Public Opinion Laboratory. The same type of public opinion questionnaire used by Centers in his study was used here. There were a number of questions common to both the Centers and the WPOL studies, making possible a direct comparison of their results. This comparison of Centers' findings with the findings of another and independent sample interviewed at a different place and time can then serve as a direct test of the Interest-Group theory by indicating the extent to which Centers' occupational classification and politico-economic opinion relation-

ships are supported by those found in the WPOL sample, and by indicating the extent to which the social class and politico-economic opinion relationships found by Centers are supported by those found in the WPOL sample.

The Centers' Conservatism-Radicalism Battery and the Class-identification question were asked on the WPOL poll in the exact form used by Centers in his poll. In addition, a question on voting behavior was asked on the WPOL poll similar to a question on voting behavior used by Centers. These questions are as follows. The first six constitute the C-R Battery.

1. "Do you agree or disagree that America is truly a land of opportunity and that people get pretty much what's coming to them here?"
  1. Agree
  2. Disagree
  3. Other
  4. Don't know
2. "Would you agree that everybody would be happier, more secure and more prosperous if the working people were given more power and influence in government, or would you say that we would all be better off if the working people had no more power than they have now?"
  1. Agree
  2. No more power
  3. Don't know
3. "As you know, during this last war many private businesses and industries were taken over by the government. Do you think wages and salaries would be fairer, jobs more steady, and that we would have fewer people out of work if the government took over and ran our mines, factories, and industries in the future, or do you think things would be better under private ownership?"
  1. Better under government
  2. Better under private owners
  3. Other
  4. Don't know
4. "Which one of these statements do you most agree with?"
  1. The most important job for the government is to make it certain that there are good opportunities for each person to get ahead on his own.
  2. The most important job for the government is to guarantee every person a decent and steady job and standard of living.
5. "In strikes and disputes between working people and employers, do you usually side with the workers or the employers?"
  1. Workers
  2. Employers
  3. Don't know
6. "Do you think working people are usually fairly and squarely treated by their employers, or that employers sometimes take advantage of them?"

<sup>1</sup> Richard Centers, *The Psychology of Social Classes*, Princeton: Princeton University Press, 1949, pp. 28-29.

1. Fair treatment
2. Employers take advantage
3. Don't know
7. "All in all, which political party do you generally favor?"
  1. Democratic
  2. Republican
  3. Socialist Labor
  4. Independent party
  5. Support no party; independent voter
  6. Both Democrats and Republicans
  7. Don't know
8. "If you were asked to use one of these four names for your social class, which would you say you belonged in; the middle class, lower class, working class or upper class?"
  1. Middle
  2. Lower
  3. Working
  4. Upper
  5. Don't know

Centers' question on voting behavior is stated, thus: "Whom did you vote for in the last Presidential election?"

- (1) Dewey (3) Other
- (2) Roosevelt (4) Didn't vote

These questions were included on Poll 23, the Election Poll, and administered by the Washington Public Opinion Laboratory in October, 1950 to a stratified, random sample of adults in the State of Washington.<sup>2</sup> The sample size was 441. The data to be analyzed are based on the replies of the respondents to the questions included on this poll.

Because comparability of designs between this study and that of Centers is an important consideration, it should be made clear that the present study recognizes certain dissimilarities between the two.

Generally, they are alike in the following characteristics: (1) Both studies have, as sources for their data, public opinion questionnaires using items requiring specific and limited answers. (2) The questionnaires of both studies were administered by field interviews. (3) Both sets of data are statistically analyzed by *t* tests of significance. In the WPOL analysis, chi-square tests were also used.

Generally, they are not alike in the following ways: (1) Centers' poll was administered in 1945; the WPOL was administered in 1950. (2) Centers drew a sample of 1,100 from the national population of adult males; the WPOL sample of 441 was drawn from a state-wide population of adults of both sexes. (3) The

design of Centers' sample is that of quota control; the WPOL sample design is of a stratified-random character. (4) The interviewers in the Centers study are known to have had more training than those used by the WPOL.

Because of these differences, any conclusions based on comparisons between the two sets of findings cannot be definitive. There are also certain limitations of the tests of significance used. The statistical techniques used for determining the significance of differences between proportions are designed for simple random samples. Since the present sample is not a simple, random one, but rather a stratified-random area-probability sample, it is not certain whether the tests of significance yield over- or under-estimates of the relationships involved. Moreover, since the Centers sample is based on a quota control design, the limitations on the statistical techniques for testing significance must apply to the Centers study as well.

#### HYPOTHESIS AND CRITERIA FOR ACCEPTANCE

The present research is designed to test the hypothesis that there are no significant differences between the findings of Centers in his national sample and the findings of the present research using data collected by the WPOL. It was decided that the hypothesis would be arbitrarily accepted if on the basis of all the comparisons there was more agreement than disagreement, and rejected if more than half the comparisons disagree. "Agreement" would be said to exist if the comparison indicated the significance of, and same direction of, association<sup>3</sup> of the attributes tested in both studies. "Disagreement" would be said to exist if the comparison indicated significance of association of attributes in both studies, but in opposite directions. The foregoing describes two criteria of agreement or disagreement; the following possibilities were also considered with equal weight, since no differential weighting technique for the criteria seems any more defensible than equal weighting.

#### Agreement

Statistically significant association of attributes in one study, and not in the other but with the same direction of association in both studies.<sup>4</sup>

Non-statistically significant association in

<sup>3</sup> The concept "direction of association" is used to mean the observed coincidence of attributes in the cells of the table. See Margaret Hagood, *Statistics for Sociologists*, New York: Henry Holt and Co., 1947, pp. 477-479.

<sup>4</sup> For statements on the value of using relationships that are indicative of a trend despite their lack of statistical significance, see Chapin's

<sup>2</sup> For a detailed discussion of the WPOL sampling design see the following source: *Sample Design, No. 4, 1950-1951*, State College Office, Washington Public Opinion Laboratory, State College of Washington, Pullman, Washington.

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either study, but the same direction of association in both.

#### Disagreement

Statistically significant association in one

statement quoted in George Lundberg's *Social Research*, New York: Longmans Green and Co., 1942, p. 31. See also C. C. Peters, "Note on a Misconception of Statistical Significance," *American Journal of Sociology*, 39 (September, 1933), pp. 231-236.

study but not in the other, the correlations being in the opposite directions.

Non-statistically significant association in either study, and opposite directions of association.

#### RESULTS

The data indicate the following determination of hypothesis tenability, which may be stated in the following tabular form.

TABLE 1. COMPARISON OF WPOL AND CENTERS FINDINGS

Analysis of the Data	Existence of Association <sup>1</sup>	Direction of Association	Agreement or Disagreement
1. Cross-tabulation of <i>Occupation</i> <sup>2</sup> with "Working People's Power" question (see Number 2 in list of questions, above).	Both studies: 5 per cent level or lower.	Both studies: <i>Business and Conservatism; Manual and Radicalism.</i>	Agreement
2. Cross-tabulation of <i>Occupation</i> with "Govt. vs. Private Ownership" question. (Number 3.)	Centers: 5 per cent level. WPOL: No significance.	Both studies: <i>Business and Conservatism; Manual and Radicalism.</i>	Agreement
3. Cross-tabulation of <i>Occupation</i> with "Individualism vs. Collectivism" question. (Number 4.)	Both studies: 5 per cent level or lower.	Both studies: <i>Business and Conservatism; Manual and Radicalism.</i>	Agreement
4. Cross-tabulation of <i>Occupation</i> with "conservative-radical" classification. <sup>3</sup>	Both studies: 5 per cent level or lower.	Both studies: <i>Business and Conservatism; Manual and Radicalism.</i>	Agreement
5. Cross-tabulation of <i>Occupation</i> with <i>voting behavior</i> question. (Number 7 and Centers' question.)	Both studies: 5 per cent level or lower.	Both studies: <i>Business and Republican; Manual and Democratic.</i>	Agreement
6. Cross-tabulation of <i>Social Class</i> <sup>4</sup> with "Working People's Power" question.	Both studies: 5 per cent level or lower.	Both studies: <i>Middle Class Conservatism; Working Class Radicalism.</i>	Agreement
7. Cross-tabulation of <i>Social Class</i> with "Govt. vs. Private Ownership" question.	Centers: 5 per cent level. WPOL: No significance.	Both studies: <i>Middle Class Conservatism; Working Class Radicalism.</i>	Agreement
8. Cross-tabulation of <i>Social Class</i> with "Individualism vs. Collectivism" question.	Both studies: 5 per cent level or lower.	Both studies: <i>Middle Class Conservatism; Working Class Radicalism.</i>	Agreement
9. Cross-tabulation of <i>Social Class</i> with "Treatment of Workers" question. (Number 6.)	Both studies: 5 per cent level or lower.	Both studies: <i>Middle Class Conservatism; Working Class Radicalism.</i>	Agreement
10. Cross-tabulation of <i>Social Class</i> with "Conservative-Radical" classification.	Both studies: 5 per cent level or lower.	Both studies: <i>Middle Class Conservatism; Working Class Radicalism.</i>	Agreement
11. Cross-tabulation of <i>Social Class</i> with <i>voting behavior</i> question.	Both studies: 5 per cent level or lower.	Both studies: <i>Middle Class Republican; Working Class Democratic.</i>	Agreement

<sup>1</sup> Centers used the 5 per cent level of significance throughout. Even where the difference reaches the 1 per cent level in the WPOL study, the significance level used will be that decided upon by Centers. See Centers, *op. cit.*, p. 46.

(Footnotes Continued on Following Page)

(Footnotes Continued from Preceding Page)

Certain of the opinion-attribute relationships were not reported by Centers. Hence this table includes only those on which direct comparisons could be made. Centers gives no explicit reasons for not reporting the results on the analysis of occupation with the "Land of Opportunity," "Workers vs. Employers," and "Treatment of Workers" questions. It may be mentioned, however, that in the WPOL study, cross-tabulations of the "Workers vs. Employers" and "Treatment of Workers" questions with occupation indicated significant existence of association at the 1 per cent level in both cases, and the same direction of association: *Business and Conservatism, Manual and Radicalism*.

Centers also gives no explicit reason for not reporting the results on the analysis of social class and the "Land of Opportunity" and the "Workers vs. Employers" questions.

<sup>2</sup> The coding of occupational groups on each poll varied to some extent. Centers, however, combined his occupational categories into "Business" and "Manual." The same procedure was considered defensible in the WPOL study. No statistical differences were found among Professional and Semi-Professional, Farmer, Manager and Official, and Clerical and Sales responses on the opinion variables. Moreover, no significant differences were found among Craftsman, Operatives, Service, Farm Laborer and Laborer responses on the opinion variables. In every instance, however, statistical differences were demonstrated between the grouping of the first four and that of the last five strata. This universe homogeneity within each grouping and universe difference between the two groupings was statistical justification for the combining procedure.

<sup>3</sup> This classification is based on the combining of responses to each of the six questions in the C-R Battery. This procedure is outlined by Centers, *op. cit.*, pp. 40-42.

<sup>4</sup> Centers combined the upper and middle class categories into "middle" class, and lower and working into "working" class. The same procedure was followed in the WPOL study because, with a smaller sample, this was the only way the theoretical demands of chi-square could be satisfied here. This combining also made for a clear comparison between two studies.

The straight tabulations of the responses to the social class identification question also resulted in agreement on both studies. A Goodness of Fit chi-square test indicated no real difference in the social class alignments of both samples.

TABLE 2. COMPARISON OF SOCIAL CLASS ALIGNMENTS OF THE WPOL AND THE CENTERS SAMPLES

Centers (N=1,097) WPOL (N=441)		
	Responses in Percentages	
Upper	3	1
Middle	43	41
Working	51	55
Lower	1	2
Don't Know	2	1
	100	100

#### SUMMARY AND CONCLUSIONS

Of the twelve instances in which direct comparisons can be made, ten demonstrate complete agreement; in only two instances is there partial agreement.<sup>5</sup> In no case is disagreement found in the analysis. As a consequence, the hypothesis of no difference between the findings of the

<sup>5</sup> Partial agreement refers to analyses 2 and 7 in Table 1 where there was existence of association in the Centers study but not in the WPOL study. This partial agreement was, however, given full weight in the determination of hypothesis tenability.

two studies, in terms of occupation and social class relationships with the comparable politico-economic opinions, may be accepted. This indicates that the findings of the WPOL analysis support the Interest-Group theory in the same limited manner that Centers' findings support this theory.

This result is especially noteworthy since in 1950, the year of the WPOL questionnaire administration, there was much less turbulence in the nation than in 1945 when Centers administered his poll. Yet the 1950 data also clearly reveal social classes as interest groups—but interest groups which appear to be behaving non-militantly and non-violently within a framework of capitalism. Centers, seeing in 1945 and the years immediately following World War II many of the conditions that at least superficially looked like Marxian-predicted conditions, did attempt to use support of the Interest-Group theory to imply support of broader Marxian theory. It is suggested here that support of the Interest-Group theory does not necessarily require the support of broader Marxian theory—such a use was then and would now be unjustified.

For the Interest-Group theory to be utilized fruitfully in understanding social class behavior in America, it must be seen in broader sociological perspective. There are alternative non-Marxian predictions (for examples: political choice, reaction to and hence effectiveness of proposed legislation, and response to social reform programs) with much sounder roots in American social structure to which the theory of social classes as politico-economic interest-

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groups might be applied. The empirical base of Centers' theory is too narrow to be directly used for support of broad Marxian predictions. Indeed, the question may be raised whether the Interest-Group theory need be considered a deduction from, and hence functionally related to, Marxian social class theory. Such a deduction seems to be quite arbitrary. The resemblance of the Centers theory to Marxian theory appears to stop precisely where the explanations of Marxian predictions regarding the crucial notion (to Marxian theory) of "class-struggle" and the subsequent notions of social change mechanics begin.

A STATISTICAL TEST OF SIGNIFICANCE  
APPLIED TO A SOCIOLOGICAL PROBLEM:  
VARIATION IN ACCIDENT  
RATES FROM MOTOR  
VEHICLES

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Headlines in the Richmond *Times-Dispatch* for October 8, 1951 told that "Big United States Traffic Toll Is a Blot on Nation; State Shares Blame." The text was based on figures just released by the National Safety Council on deaths by motor-vehicle by state of accident, 1950. The national average was 7.5 deaths per 100 million vehicle-miles, and the figure for Virginia was 9.2. The *Times-Dispatch* suggested the usual reasons for the high rate in Virginia (speeding, drunk drivers, courts not tough enough, state highway patrol undermanned, etc.), and it outlined a program calculated to reduce the rate in the future.

Neither the text nor the comment was accompanied by any inquiry into the question of whether the rate for Virginia was actually significantly higher than the national average. There was no recognition of the fact that if there are to be any accidents at all, then without any identifiable cause whatever—i.e., purely by chance—the rates will vary from one area to another, and from one year to another; that some rates must be above the average, and some below.

The purpose of this paper is to illustrate how a simple statistical tool may assist in the

discovery of the existence or the absence of identifiable causes of apparent differences between the behavior of the populations in different areas or classes. The discovery of differences and the causes of differences embrace a great deal of sociological research. The application here is to the causes of variation, from one area to another, in the rates of deaths from motor vehicles. The same technique has immediate application to other types of accidents, and to studies in the differences in birth-rates, morbidity, and deaths from other causes.

More details on a possible application to insurance may help to clarify these proposals. Some insurance companies that write policies against damage done by an automobile divide their policy-holders into two classes—those who had an accident during the past year, and those who did not. Suppose that the company gives a reduced rate to those who had no accident last year. Are such people entitled to a reduction? Will the two classes be significantly different? That is, will the second class during the next year or five years have fewer accidents than the first class, and so merit the reduced rate? The answer is no; the separation is meaningless and ineffective except for (a) some possible psychological incentive helpful to drivers placed in Class 2 and discouraging to those placed in Class 1; and (b) the fact that it does place in Class 1 the drivers that have an average of several accidents per year. The two classes would probably otherwise have practically the same accident rates during the coming year or five years.

What is wrong? Statistically, a year offers too small a sample of exposure for most drivers. In a year's time only one in seven vehicles is involved in an accident of a type and severity deemed reportable to an insurance company. More time, more vehicle-miles, are necessary to effect a meaningful separation. Drivers with no reportable accident over a suitable period, possibly five years, possibly eight, could lay claim with some scientific justification to reduced rates. The length of a suitable period could be calculated by the techniques described here from the records of accidents reported. The same techniques would separate out another class of driver who has more accidents and is not entitled to insurance at the rates paid by "normal" drivers. Such separations would not be clean, but they would be economic, and in line with good business.<sup>1</sup>

<sup>1</sup> Most of the psychological benefits of reward for a clean record could be retained by reducing the premium by only a mere pittance for each successive clean year. At the end of so many clean years the policy-holder would definitely fall into one class or the other. Meanwhile an acci-

*Conclusions.* The statistical reasoning that is explained later on, combined with the results in Table 2, leads us to the following conclusions concerning deaths from motor vehicles:

(1) Efforts that have been expended to bring high death rates into line have apparently not yet been wholly successful, because there are many rates significantly high (H in Table 2) year after year.

(2) The reason may be found in diffused effort in trying to pin the reasons on to too many causes. One of the main aims of this paper is to suggest that *the identifiable and removable causes of significantly high rates can be discovered most effectively by looking for causes other than common causes* that run almost nation-wide.

(3) Studies of conditions in areas that have significantly low rates (those marked L in Table 2) might identify some of the causes of low rates. The lessons so learned might then be applied in areas marked H.

(4) In areas whose rates are not significantly high or low, efforts should be concentrated on common causes and not on attempts to discover causes identifiable with the particular area.

(5) Efforts to decrease the national average rates, urban and rural, should be concentrated principally on the removal of *common causes*, which will be causes not specifically identified with areas that are significantly high or low.

*The Necessity for Classifying Rates as Significant or Not Significant.* In the interest of effectiveness of effort, explanations of the variations of accident rates from one area to another, and consequent attempts to institute reforms for safety, should hinge upon the discovery of which rates represent departures *significantly different* from the average, and why. When a rate is significantly above or significantly below the average, an identifiable cause (explanation) other than chance variation should be presumed and sought. But when a rate is not significantly different from the average, it will not be profitable to look for an identifiable cause for the difference between

dent would restore the rates of Class 1 and the chain would start again. In fact, the whole system might be placed under a continuous inspection plan, whereby a driver will stay in one class, or shift, depending on his record. Such a plan would take account of changes in eyesight and reflexes. New machinery for accounting now eliminates the excessive cost and time required for processing the records. The statistical techniques required have been developed by Harold F. Dodge and Miss Mary N. Torrey, "Continuous Sampling Inspection Plans," *Bell Telephone System, Technical Publications Monograph 1834* (1951).

(e.g.) Virginia and the national average—such differences occur too readily by chance, and it is better to study areas where there is indication of an identifiable cause. Moreover, much harm is done when, subsequent to a "drive" for safety, next year's rate goes below the average, not because of the drive, or in spite of it, but purely by chance variation. The decrease in the rate would then be wrongly attributed to the drive, instead of to coincidental chance variations—up one year, down the next. When a rate is not significantly high or low, efforts to find why it is merely above or below the national average will be misguided, misspent, misleading, and ineffective. Medical men know well the wrong done by coincidence of improvement and quack medicine.

*The Mathematical Model for Chance Variations of Rates.* Let black and white sand, thoroughly mixed, fall from a height on to a checkerboard. Suppose that there are 420,000 million grains of sand, 30,411 of which are black. Let 100 million grains of sand on the checkerboard constitute one unit; then there are, on the average, 7.24 black grains in every one unit of sand.

In 1949, vehicles travelled 420,000 million miles in the United States.<sup>2</sup> We assume that a grain of sand is a vehicle-mile, that a unit of sand is 100 million vehicle-miles, and that a black grain is a fatality. Then the annual exposure within any state is composed of some number of units of sand. A small state will contain a few units of sand, while a large state may contain many units. Not all the squares of the checkerboard will contain the same number of grains of sand, nor the same number of units, nor the same proportion of black grains. All this is well known from experience.

*The Mathematical Definition of Significance.* The experiment with the black and white sand will serve as the probability model. We shall test whether this mechanism is the right one. Significant differences will indicate departures from the model provided by the sand. With the aid of theoretical statistics we may compare the number of deaths in any state with the expected number of grains of black sand. First, the "expected" or mathematical average number of grains of black sand found in  $n$  units of sand ( $1 \text{ unit} = 10^8 \text{ grains of sand}$ ) that fall on the checkerboard is just  $7.24 \cdot n$ . This proportion

<sup>2</sup> The U. S. totals used in this paper for 1948 and 1949 exclude the State of Rhode Island, which state failed to supply certain information. The exception of Rhode Island for the years 1948 and 1949 is to be understood in the text throughout. The U. S. total for all years excludes also the District of Columbia, which is entirely urban.

agrees with the original mixture, in which out of every  $10^8$  grains of sand, 7.24 were black.

Second, we do not expect to find exactly the same number of grains of black sand in every  $n$  units of sand on the checkerboard. Instead, in repeated experiments we observe variations above and below the average.

Third, experience shows that these variations will be described accurately enough by a distribution known as the Poisson series, by which, if  $m$  is the theoretical average or "expected" number of grains of black sand, the standard deviation of the observed number in repeated experiments will be the square root of  $m$ .

Fourth, we may choose 2 standard deviations (2-sigma) as the dividing line between significant and nonsignificant variations. It is better to err occasionally on the side of looking for causes of real differences when such causes do not actually exist, than to fail too often to look for causes of differences when the causes really do exist. Hence, we use 2-sigma limits, and not the more usual 3-sigma limits.

With this model (mechanism) we need only: set  $n$  for some particular state equal to the number of units of vehicle-miles in that state (1 unit =  $10^8$  vehicle-miles); calculate the expected number of deaths  $m = 7.24 n$ ; calculate the square root of  $m$ ; inquire whether the recorded number of deaths  $D$  for that state falls inside or outside the 2-sigma interval. If  $D$  is below the lower limit the rate is significantly low. If  $D$  is above the upper limit the rate is significantly high. If  $D$  falls inside the interval the rate is not significantly above or below the national average.

*Procedure of Calculation.* For an illustration of these steps of calculation we may use the figures for Virginia for the year 1949. In that year there were 807 motor-vehicle traffic deaths, and 8,845,000 vehicle-miles of travel, with 9.1 deaths per 100 million vehicle-miles.

$n = 88.45$  units. (This is the number of vehicle-miles for Virginia in 1949, expressed in units of  $10^8$ .)

$m = 7.24n = 7.24 \times 88.45 = 640$  expected number of deaths.

$\sqrt{m} = \sqrt{640} = 25$  deaths, standard deviation.

$m + 2\sqrt{m} = 640 + 50 = 690$ .

$m - 2\sqrt{m} = 640 - 50 = 590$ .

The recorded number  $D$  of deaths was 807. This number falls well above the upper limit 690; consequently, the rate for Virginia was significantly high in 1949.

*Separate Analysis for Urban and Rural Areas.* The validity of this statement depends in part on how adequately the total of vehicle-miles measures the chance of death in a motor-vehicle accident. It is known, with fair accuracy, that nationally the mileage death rate

for cities and towns is only half as high as the rate for rural areas. A highly urbanized state might therefore have a death rate that is significantly low, statewide, even though its urban rate is no lower than the rates in cities and towns of other states, and even though its rural rate is as high as the rural rates recorded elsewhere.

It seems desirable, then, to separate the urban areas from the rural areas. Unfortunately, this cannot be carried out with mileage rates. Some of the mileage estimates for urban areas probably contain sizable errors, although the extent cannot be measured. The estimates of rural mileage, while probably not free of error, are satisfactory for the present purpose.

An alternative measure of the urban exposure to motor-vehicle accidents is population. As more than half the urban accident deaths are of pedestrians, the use of the ratio of deaths to number of inhabitants in the urban areas seems justifiable. However, in interpreting the results (Table 2), it must be borne in mind that one factor in a significantly high rate may be extra heavy use of motor vehicles in the cities and towns of that state.

Application of the statistical method to the urban and rural death rates is the same as described above for state-wide rates. The national death rate for 1949 for accidents in cities and towns with more than 2,500 inhabitants was 9.41 per 100,000 people. In Virginia for 1949 the estimated population in places with more than 2,500 residents was 1,258,000. Now  $9.41 \times 1,258,000 / 100,000 = 118$ , the number of expected deaths for urban Virginia. Moreover, the square root of 118 is 11, which is the standard deviation of the observed number in repeated experiments. The 2-sigma range is therefore 118 plus or minus  $2 \times 11$ , or 96 to 140. As the recorded total number of deaths for urban Virginia was 106, urban Virginia was well within this range, and was therefore not significantly different from the national urban average.

Similarly, the 1949 national death rate for accidents in rural areas and towns under 2,500 inhabitants was 10.37 per  $10^8$  rural vehicle-miles.<sup>3</sup> Virginia's rural vehicle mileage was

<sup>3</sup> One point should be noted concerning the computation of the rural expectancy of death. The U. S. rural rate was obtained by dividing deaths in rural areas and in towns of less than 2,500 population by the vehicle mileage given for rural areas only. The total of deaths recorded for the U. S. rural thus includes deaths from a greater area than is included in the rural mileage. The reason for this inconsistency is that the best available series of death records classifies towns of less than 2,500 population as rural areas, while

TABLE 1. SAMPLE CALCULATIONS FOR A FEW STATES, FOR 1949

(Source of the data for D, the National Office of Vital Statistics and state traffic authorities; for n, estimates of the National Safety Council based on data from the Bureau of Public Roads)

Area	D Number of Deaths	n*	m**	$\sqrt{m}$	$m \pm 2\sqrt{m}$	Significant?
U. S.***						
Total	30,411	4,200	30,411	..	....	....
Urban	8,046	855	8,046	..	....	....
Rural	22,365	2,156	22,365	..	....	....
Alabama						
Statewide	674	61.1	442	21	400-484	High
Urban	113	11.6	109	10½	88-130	No
Rural	561	32.4	336	18½	299-373	High
Utah						
Statewide	172	22.8	165	13	139-191	No
Urban	51	4.0	38	6	26-50	High
Rural	121	12.4	129	11½	106-152	No
Washington						
Statewide	444	76.0	550	23½	503-597	Low
Urban	135	12.3	116	11	94-138	No
Rural	309	36.4	377	19½	338-416	Low

\* For the U. S. total, and for rural and statewide areas, n denotes vehicle-miles in units of  $10^8$ . For urban areas, n denotes population in units of  $10^5$ .

\*\* The national death rates used in computing m, the "expected" number of state deaths are: 7.24 for the U. S. total, 9.41 for U. S. urban, and 10.37 for U. S. rural.

\*\*\* Excluding Rhode Island which state failed to report sufficient information, and the District of Columbia which is an entirely urban area.

estimated at approximately  $64.7 \times 10^8$ , so the expected number of deaths was  $10.37 \times 64.7 \times 10^8 / 10^8$ , or 671, and the standard deviation

the only estimates available on mileage classifies them as urban places. The rate obtained is too high to represent the rural experience alone, but as its only purpose is to estimate the number of deaths in rural areas and towns of less than 2,500 population for each state, the question of its accuracy as a rural rate does not arise. Here we only need estimates that will be useful in the problem of determining whether a state's rural area is significantly different from the national rural average.

One possible defect is that in towns of less than 2,500 inhabitants, the ratio of population to rural mileage is not the same in all states. It seems reasonable to say that in states where the ratio of population to mileage is greatest, the recorded deaths should exceed the expected deaths. However, this is not indicated by the data. In Iowa and Minnesota this ratio was twice the national average; moreover, in these states the populations in towns with less than 2,500 inhabitants are absolutely as well as relatively large (463,000 in Iowa and 402,000 in Minnesota according to the 1950 Census); yet as Table 2 shows, in the rural parts of these states the recorded deaths were significantly low in all four years covered by this study. Their experience thus indicates that the method that we have used here for obtaining the expected death totals does not of itself always raise the recorded deaths above expectancy.

is here the square root of 671 or 26. The 2-sigma range is 671 plus or minus  $2 \times 26$ , or 619 to 723. With a recorded death total of 701, the rural experience—like the urban—is within the range, and is not significantly different from the national rural average.

Table 1 summarizes the computations for 1949 for three other states as additional illustrations of the method.

We had already noted that if the 1949 Virginia experience is considered in total, the deaths appear to be significantly more numerous than would be expected on the basis of the national experience. This conclusion is changed by separate consideration of the urban and rural death records, for we have just seen that the state's urban and rural experience did not differ significantly from that of the nation's urban and rural averages.

Conversely, Ohio, the statewide experience in 1947, 1948 and 1949 did not differ significantly from the respective national averages for urban and rural areas combined, yet Ohio's urban rate in all three years showed deaths above the national urban average.

*Interpretation of the Table of Significance, Table 2.* This table shows whether the death rates—statewide, urban, and rural—were significantly above or below the national average, for the years 1946, 1947, 1948, and 1949. It shows that practically all states retain their

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## NOTES ON RESEARCH AND TEACHING

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TABLE 2. SIGNIFICANCE OF TRAFFIC DEATHS FROM MOTOR VEHICLES, STATEWIDE, URBAN, AND RURAL, 1946 TO 1949

(H denotes significantly high, L denotes significantly low, — not significant, in comparison with the national average)

States	1946			1947			1948			1949		
	State-wide	Urban	Rural	State-wide	Urban	Rural	State-wide	Urban	Rural	State-wide	Urban	Rural
Alabama	H	—	H	H	—	H	H	H	H	H	—	H
Arizona	H	—	—	H	H	—	H	—	H	H	—	—
Arkansas	H	—	—	H	—	—	H	—	—	H	—	—
California	H	H	H	H	H	H	—	H	H	H	H	H
Colorado	—	—	—	—	—	—	—	—	—	—	—	—
Connecticut	L	L	L	L	L	L	L	L	L	L	L	L
Delaware	—	—	L	—	—	L	—	—	L	—	—	—
Florida	H	H	H	H	H	H	H	H	H	H	—	H
Georgia	H	H	—	H	—	—	H	—	H	H	—	H
Idaho	—	—	—	—	H	—	H	H	—	—	—	L
Illinois	—	H	L	H	H	—	H	H	—	—	H	H
Indiana	—	H	—	H	H	H	H	H	H	H	H	—
Iowa	L	—	L	L	—	L	L	—	L	L	—	L
Kansas	L	L	L	L	L	L	—	L	L	—	—	—
Kentucky	H	—	H	H	—	H	H	—	H	H	H	H
Louisiana	H	—	H	H	—	H	H	L	H	H	—	H
Maine	L	L	—	L	—	L	—	L	—	L	—	L
Maryland	—	L	L	—	—	—	—	—	L	—	—	—
Massachusetts	L	L	L	L	L	L	L	L	L	L	L	L
Michigan	L	—	—	L	—	—	—	H	—	—	—	—
Minnesota	L	L	L	L	—	L	L	—	L	L	—	L
Mississippi	H	—	H	H	—	H	H	—	H	H	—	H
Missouri	L	—	H	L	L	H	L	L	H	L	L	H
Montana	—	—	—	—	L	—	—	—	—	—	—	—
Nebraska	L	L	L	—	—	—	L	—	L	L	—	L
Nevada	H	—	—	Data incomplete			H	—	—	H	—	—
New Hampshire	—	L	—	—	—	—	L	—	L	L	—	L
New Jersey	L	L	L	L	L	L	L	L	L	L	L	L
New Mexico	H	—	H	H	—	H	H	—	H	H	—	H
New York	L	L	L	L	L	L	L	L	L	L	L	L
North Carolina	H	—	H	H	L	H	H	L	H	H	—	H
North Dakota	—	L	—	L	—	—	—	—	—	—	L	L
Ohio	L	H	—	—	H	—	—	H	—	—	H	—
Oklahoma	—	L	L	—	L	L	—	—	L	—	L	L
Oregon	H	H	—	—	—	—	—	H	L	L	—	L
Pennsylvania	L	L	H	L	L	H	L	L	H	L	L	H
Rhode Island	L	L	L	L	L	L	No data			No data		
South Carolina	H	—	H	H	—	H	H	—	H	H	—	H
South Dakota	—	—	—	—	—	—	L	—	L	L	L	L
Tennessee	H	—	H	H	—	H	H	H	H	H	H	H
Texas	—	—	L	—	—	L	H	—	—	—	—	—
Utah	—	H	—	—	—	—	H	—	H	—	H	—
Vermont	—	—	L	L	—	L	—	—	—	L	L	L
Virginia	H	—	H	H	L	—	H	L	—	H	—	—
Washington	—	H	—	L	H	—	L	H	L	L	—	L
West Virginia	H	—	—	H	—	—	H	—	H	H	—	—
Wisconsin	L	L	L	—	—	—	—	—	—	—	L	—
Wyoming	H	—	—	—	—	—	H	—	—	H	—	—

respective positions through the four years. That is, a state that has a significantly high rate, either in total or for urban or rural areas, in one year retains it in other years, and a state that has a significantly low rate in one year retains it in other years. In other words,

a pattern set in any one year holds in most cases through other years, before and after.

A significantly high or low rate indicates that there is an identifiable cause other than chance variation. An identifiable cause of a high rate might be roadways too narrow (espe-

cially on mountain curves), or high speeds on flat plains. An identifiable cause, present one year, will usually continue to act until it is removed. Hence, a state that has a significantly high rate in any one year will usually continue to have a high rate until definite steps are taken to identify and remove the cause. Similarly, a state that has a significantly low rate will continue to have a low rate unless the identifiable causes change. On the other hand, in a state that is so close to the average that its difference from the average is not significant, it will be difficult or even hazardous to try to identify causes for the difference. Effort should there be concentrated on *common causes*.

For such reasons the conclusions already listed at the beginning of this paper seem to follow.

#### APPENDIX: SOURCES OF THE DATA

There are six series of state death totals from motor-vehicle accidents, prepared by state traffic authorities, vital statistics divisions of state health departments, and the National Office of Vital Statistics.

The records bureaus in the offices of state traffic authorities compile detailed information by place of accident on deaths that result from accidents on traffic ways involving motor vehicles. In some states a record is also kept of deaths in motor-vehicle accidents occurring off traffic ways, chiefly home driveway accidents, but these are recorded separately from the traffic deaths. These totals of traffic deaths would be the best series for use in the study if the division between urban and rural accidents were consistent from state to state. However, for most states "urban" includes all incorporated places regardless of size, plus the larger unincorporated places; but for some states "urban" means places of 1,000 or more inhabitants, for others it means places of 2,500 or more, and for a few it includes only places of 5,000 or more.

State health departments compile information on deaths from motor-vehicle accidents according to place of death, and in many states also by place of residence of deceased. If only statewide data were needed, the totals by place of death would be useful, but an urban-rural division by place of death is misleading. Many persons injured in rural accidents are taken to urban hospitals before they die. The urban record is thus loaded with deaths that are a part of the rural accident experience. The totals of deaths classified according to place of residence of deceased are even less useful for this study, for they include as rural the

deaths of residents of rural areas in urban accidents, and as urban the deaths of urban residents in rural accidents.

The National Office of Vital Statistics, for the years with which this study deals, has published three series of state motor-vehicle death totals. Two of them have the same bases as the data from state health departments—place of death and place of residence of the deceased—and are therefore of limited usefulness for this particular study. The third series, however, is based on place of accident, and includes an urban-rural division that is the same for all states. This is the series finally selected for our calculations as the best available. It required some minor adjustment, however, for discrepancies in reporting.

A comparison of the statewide totals with those prepared by state traffic authorities showed that some states apparently missed, in their reports to the N.O.V.S., some of the traffic deaths. This could happen through failure to sort out all the deaths from motor vehicles, from the death certificates from all causes. Occasional differences of opinion on reportability or on the classification of a death as traffic or non-traffic may be expected, and if all the differences were small they could be disregarded. However, the totals reported by the National Office of Vital Statistics for nine states were more than five per cent below the totals reported by the state traffic authorities. For these states we used the figures from the state traffic authorities if we could make an urban-rural division at places of 2,500 or more inhabitants; otherwise we used the urban and rural totals from the National Office of Vital Statistics, both increased proportionately to equal in total the state traffic authority's total of deaths. The errors involved in this procedure are undoubtedly small compared with the 2-sigma limits that determine significant variations.

The population estimates that we used were straight-line interpolations for July 1 of each year between the Census populations of 1940 and 1950. It is unlikely that estimates for these years made by more complicated procedures would yield results materially different.

The state totals of rural vehicle mileage were derived from estimates of the consumption of gasoline and from trends of rural traffic compiled from traffic counters placed by the Bureau of Public Roads. The estimates have a firm basis in the detailed information obtained in the state highway planning surveys conducted in the late 1930's, while the trends in traffic volume (including data for passenger cars and for trucks of different load-capacities), and information on the estimated gasoline con-

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sumption, make possible reasonable approximations of rural vehicle-miles for recent years.

The mileage estimates do not have the precision of the death totals, but the errors are not big enough to produce changes in the conclusions from Table 2. Details of the computations are not given in this article, but it may be of interest to the reader that in 70 per cent of the entries in Table 2 in which an area is classified H or L, the recorded number of deaths exceeded the limits of significance by 10 per cent or more. In these cases only a sizable change in the estimate of mileage could shift a state to another classification of significance (H to not significant, etc.).

## A TWO-STAGE SAMPLE OF A CITY

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*University of Michigan*

This article is a bare description of one way of meeting a particular sampling problem. The reasons for using a probability model are omitted. Within that model there is freedom for a great deal of variety; and that freedom should be used with the aim of selecting those procedures which will meet the study objectives with the greatest accuracy and the greatest economy within the limits of available resources. Here is presented only one set of procedures for meeting the problem—but one which will be useful in many situations. In the appendix the reader will find mention of some other procedures, descriptions or definitions of some of the terms; and also some references to more adequate discussions of some of the problems.<sup>1</sup>

It is advisable to consult a sampling statistician with the plans *before* they are put into execution. He may discover possible sources of bias which may have crept into the design. He may suggest ways for improving the efficiency of the design either through more appropriate selection procedures, or through an improved procedure of estimation.

<sup>1</sup> The procedures presented here are not original with the author. On the contrary, most of them have been used in some form or other by various organizations engaged in area sampling. There are three reasons for presenting them here: (1) In spite of the often expressed need for written material of this kind, the details of sampling procedures are still transmitted largely by word of mouth; (2) The author had varied experience with procedures of this kind; (3) There came a time when the demands of a specific project forced him to set his thoughts down on paper.

Let us assume that considerations of the study objectives and of the available resources have led to the following aim and to the following design for a sample of dwelling units in which interviews are to be taken: The aim is to give every dwelling unit in the city a designated, equal probability of being selected into the sample. The dwelling units are to be selected in two stages—first, a sample of blocks is to be selected with the interval  $I_b$ , and then within the selected blocks the sample of dwelling units is to be selected with the interval  $I_w$ .

### STEPS IN THE SELECTION PROCEDURE

The first eight steps are considered here as necessary. These (a to h) are given in the sequence of the work schedule. The other two steps (i and k) are useful but not necessary. These are given at the end; if they are used they belong at the beginning with b and c.

#### (a) *Outlining the entire area.*

The area to be covered in the survey must be defined explicitly and in accord with the objectives of the survey. Its extent may be the city limits, or may include also the surrounding built-up area. Areas within these limits may be excluded if it is *known definitely* that they contain no dwellings of any sort; these may be parks, power plants, the airport, etc. There may be other identifiable areas for which it is *known* that they contain only populations which have been *explicitly* excluded from the survey population: military reservations, college dormitories, hotel, hospital grounds, penal institutions, etc. But places of this kind sometimes contain the dwellings of caretakers, staff members, and others.

#### (b) *Dividing the entire area into blocks.*

The block is used often as a sampling unit because it is an area of land which is not excessively large either in territory or in number of dwelling units, which has convenient and identifiable boundaries, and which is defined so that it is possible to identify every dwelling unit in the town with one (and only one) of the blocks.

Boundaries should be lines without area in the sense that they must contain no dwellings. Streets, roads, railroad tracks, rivers and lakes usually make good boundaries—if the river contains no barges or houseboats which serve as dwellings, or if these are excluded from the surveyed population. In some parts of the world even the area of the city streets may have to be surveyed for the people whose only abode is on them.

The boundaries should be made unambiguous on the map, so that when a sample block

is chosen it is clear just what is included within it. If a block is completely surrounded by streets, or by other natural and clear boundaries, then it is usually sufficient to identify it simply by writing its number in its center on the map during the numbering process (see below). However, if a boundary is not entirely obvious then it should be drawn in clearly.

The boundaries should be existing physical landmarks which are readily and clearly identifiable in the field, such as streets, railroads, rivers. They should be obvious and permanent features. Remember, the interviewer does not carry a surveyor's transit—he cannot identify a long, arbitrary, imaginary line drawn on the map.

(c) *Numbering the blocks.*

This process is done generally together with the designation of the blocks (as described above). Insofar as the boundaries are unambiguous the mere assigning of the block numbers accomplishes both the task of dividing the area into blocks and of numbering the latter. Generally block unit numbers are assigned serially from one on, and written inside the block boundaries on the map. It is best to number the blocks in small contiguous groups proceeding from one group to another. A serpentine order may be used both for the blocks within these groups and for going from group to group. The advantages of a systematic manner of numbering over a more haphazard one are that it yields in effect a stratification when used in conjunction with systematic selection with intervals, and that it makes it easier to observe that none of the blocks are missed.

(d) *Calculating the sampling intervals.*

- (1) The initial decision on the approximate number of dwelling units to be included in the sample depends on consideration of the objectives, of the costs, and of the procedures of the survey. Let us say that we shall aim at about  $n=220$  dwelling units as the initially designated sample.
- (2) Now a rough estimate of the total number ( $N$ ) of dwelling units in the city is needed in order to calculate the sampling fraction for the city ( $1/I_c=n/N$ ). Suppose now that having consulted a reliable source—perhaps an adjusted late Census count, or a local sociologist, or the city engineer—you find that there are about 10,100 dwelling units in the city. The sampling fraction is found to be  $220/10,100=1/46$ ; that is every dwelling unit in the city is to be given a probability of selection of 1 in 46 of being selected into the sample. This 46 may be thought of as the overall sam-

pling interval for the city, designated by the symbol  $I_c$ .

- (3) The two intervals of the two stages of selection are the means of obtaining the proper probability of selection for any dwelling in any block in the city. Having just put that probability in our city at 1 in 46 means that for our two intervals a pair of numbers must be taken such that their product is 46. In terms of our symbols for the two intervals we may say that  $I_b \times I_w = I_c$ . These may be inverted to denote the probabilities of selection as  $1/I_b \times 1/I_w = 1/I_c$  (i.e. the probability of selection of any dwelling equals the product of the probabilities that its block is selected, and that subsequently the dwelling is selected within the block).

The choice of a pair of numbers for  $I_b$  and  $I_w$  can be used to attain the desired degree of spread of the sample dwellings. This choice usually becomes a compromise between two factors with conflicting effects on the efficiency of the sample design: the greater the number of blocks into which the sample is spread the more accurately will it represent the diverse elements of the population; but the smaller the spread the less the cost per interview.

One convenient way of considering the spread of the sample is in terms of the approximate *average* number—which we shall call  $a$ —of sample dwelling units per block that we desire to designate. Often some value of  $a$  between 2 and 6 will be found satisfactory. In these terms the number of sample blocks is about  $n/a$ . If in our example we decide upon  $a=4$  then we may expect about  $220/4=55$  sample blocks in our city.

- (4) Now let us say that in the process of numbering the blocks (as described in section c, and perhaps with the modifications of section k) there were 533 block unit numbers assigned. The average number of dwelling units per block unit is  $10,100/533=18.9$ . Hence a within-block sampling interval ( $I_w$ ) of  $18.9/4=4.72$  would yield an average of four sample dwelling units per sample block. However, for the sake of convenience instead of 4.72 we may prefer to take a within-block interval of 5.
- (5) Then  $I_w$  is divided into  $I_c$  to obtain  $I_b$ . In our example  $46/5=9.2$ . The latter may be retained as a decimal fraction. Or, we may find it more convenient to take instead a nearby integer—but

(e) *Selection*

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(f) *List*

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with the clear understanding that the sampling fraction  $1/I_e$ , the overall probability of selection, is modified accordingly. If instead of using 9.2 we take  $I_e=9$ , then the probability of any dwelling in the city is now fixed at  $1/9 \times 1/5 = 1/45$ .

With a sampling fraction of  $1/45$  we may expect  $10,100/45 = 225$  dwellings in the initially designated sample. In light of all the possible sources of variation involved in the steps described above we may be satisfied with the overall sampling rate of 1 in 45. The number of sample blocks will be either 59 or 60 (533/9).

(e) *Selecting the sample blocks.*

The interval  $I_b$  is to be applied after a random start. For the start, take from a table of random numbers a number not zero and not greater than  $I_b$  (in our example a random number from 1 to 9). Then continue adding  $I_b$  until the last block unit number assigned in the city has been passed. The selection numbers thus obtained designate the block numbers selected into the sample. From now on we shall be concerned only with these blocks. It may make field operations simpler if they are assigned a set of convenient field numbers—usually consecutive numbers from one on.

(f) *Listing the dwelling units.*

The person who will do the listing should be given adequate, simple and clear instructions to cover all the important things he needs to know. Some of these are:

- (1) On the numbered "dwelling unit listing sheet" provided for each of the sample blocks, a sketch or other description of the block boundaries is given. The block is defined as the *entire area within the boundaries*. The lister should cover all streets, alleys, paths, etc. within the area and make sure he lists all the dwellings located there. Dwellings in the rear of others, behind or above stores or garages, in basements, etc. must be found too. A general map of the city on which the sample blocks are outlined and numbered is helpful in locating the proper blocks.
- (2) It is useful to provide a systematic way of proceeding around the block. The start and the direction (clockwise) may be graphically designated. Also some systematic and orderly way of listing within buildings may also be specified. This facilitates judgment on which

dwelling units should be included at the time of the interviewing as belonging to the selected sample address (see h-1 and 2).

- (3) Each dwelling unit should be entered on a separate line of the listing sheet, with the complete address including the floor or apartment number. If the number is missing, obscure, or doubtful, a description of the dwelling—using characteristics recognizable at a future date—should be given.
- (4) The dwelling unit may be defined in general—following the Census Bureau—as a group of rooms (or a single room) occupied or intended for occupancy as *separate* living quarters by a family or other group of persons living together, or by a person living alone. Ordinarily a dwelling is a one family house, or half of a duplex, or an apartment, or a flat. However, some unusual dwellings need to be looked for behind stores, or above garages, or in trailers, tents, houseboats, shacks or lean-tos, or watchman's quarters, etc.
- (5) The existence of separate cooking facilities may be used to divide a structure into dwellings; but it should not be used to exclude people from surveys. Thus a roomer's room(s) is not a separate dwelling unit, and he is to be included in his landlady's dwelling. But a separate apartment is a dwelling unit even if it lacks cooking facilities.
- (6) How to tell how many dwelling units there are in a building? In apartment houses the lister may note the doorbells or mailboxes, or ask the janitor (and remember to list his apartment). Single family houses will be listed as such; some will turn out to be duplexes but that doesn't hurt (see section h-1). But if a house appears to be a duplex the lister may investigate the mailboxes, and look for side and rear entrances.
- (7) Unusual living quarters which are excluded from the surveyed population (perhaps hotels and institutions) should be specifically mentioned.
- (8) If the lister notices houses that appear to be vacant, or stores or other buildings which may or may not contain dwelling units, he should include them to give people who may be living there a chance to be selected. If they are selected as sample addresses no great harm is done—the interviewer will record a "no dwelling" or "vacant" when he gets there. But stores, factories, warehouses

- which, it has been determined contain no dwelling units, are not to be listed.
- (9) Unusual cases should be noted on the listing sheet. Doubtful cases should be brought in for the supervisor's decision.

(g) *Selecting the sample dwellings.*

After the dwellings have been listed on separate lines the within-block sampling interval  $I_w$  (in the example 5) is applied to the block "dwelling unit listing sheet" to select some of these lines into the sample. In the sample block—after a random start from 1 to  $I_w$  (in our example a random number from 1 to 5; but note the modifications of section k)—the interval  $I_w$  is applied to the listed lines. The selected lines designate the dwelling units to be taken into the sample.

On the average there will be roughly  $a$  (in the example 4) dwelling units designated per block. However, these numbers will vary. And if the number of dwellings listed in a block is less than the random start there will be no dwellings selected from it.

(h) *Identifying the dwelling units at the sample addresses.*

The interviewer should be given clear, simple and adequate instructions on the things he must know in order to locate the sample addresses which were designated on the lines selected into the sample, and to identify the dwelling units at those sample addresses.

- (1) He is to include in the sample whatever dwelling units exist at the specific sample address. Most of the time he will find one dwelling unit. But sometimes he will find none: because the address may be a vacant apartment, or a store listed because the lister thought it might contain living quarters (see f-8). At other times there will be two (or more) dwelling units where the lister thought there was one (see f-6); both (or all) these dwellings should be taken and no harm is done.

It must be understood that the sampling interval does not select dwelling units directly but rather selects lines on the block listing sheet; all dwelling units associated with that selected line—and no others—should be included in the sample. Rules should be worked out to make the association clear, unambiguous and workable.

- (2) The interviewer should be provided with materials to locate the sample addresses. A block address card showing the sample selections may be sufficient; but it may be preferable to supply the block

listing sheet for each sample block, with the selected sample lines clearly distinguished. This will allow for better judgment on what is, and what is not included at the sample address. A map showing the sample blocks may be useful.

- (3) It may be worthwhile to keep some kind of a control book in the office to check on what happened at each of the sample addresses.

(i) *Stratifying the blocks.*

In this instance stratification may consist simply of making up groups (strata) of relatively similar blocks with the aim of making the subsequently selected set of blocks more representative of the entire city. In many ways people in the same neighborhoods tend to be relatively similar—by reasons of choice, influence and propensity; therefore a geographical stratification is generally useful. This involves simply marking out on the map as strata the different neighborhoods, the (more or less) distinct areas of the city. Then the numbering of the blocks (section c) should proceed from stratum to stratum; and the systematic selection will yield in effect a stratification in accord with the numbering procedure that was used.

In some cases, it may be worthwhile to place into special strata those blocks which contain an exceptionally large number of dwellings, or some unusual special population group, e.g., large housing developments, emergency housing, trailer courts, military reservations. In doing this it is a comfort to know that stratification need not be 100 per cent; it is good as far as it goes.

The selection procedure in any stratum may, if desired, be different from that in other strata. For example, in a large housing development treated as a separate stratum, one may skip the selection of blocks by simply listing all the dwelling units, and selecting among the dwelling units with the interval of  $I_s$  (every 45th)—after a random start.

(k) *Controlling the size of the subsample.*

The procedure for selecting sample dwellings within the block as outlined before (see d and g) will yield in each sample block a number of sample dwellings which is closely proportional (by a factor of  $1:I_w$ ) to the total number of dwellings existing in the block. But the total number of dwellings will vary from block to block, and sometimes vary a great deal. On the other hand—for reasons of efficiency and for convenience—we often would like to keep the number of sample dwellings more nearly constant. However, were we to accomplish this simply by increasing the sampling interval

within the larger blocks, we would thereby decrease the probability of selection of the dwellings within these larger blocks—and thereby violate our stated aim of equal probability (of 1 in 45) for all the dwelling units in the city.

But we may remain true to that aim and also accomplish our purpose if we increase the probability of selection of any block in the same ratio as we would decrease the probability of selection within that same block if it happens to be selected. Thus in the process of numbering blocks a block which appears to have about twice the average number of dwellings is given two consecutive block unit numbers; thereby its chance of being selected is doubled from  $1/9$  to  $2/9$ . When one of these blocks falls into the sample, the interval of sampling within it is doubled; that is every tenth address is selected after a random start between 1 and 10. Hence the probabilities of selection of a dwelling in that block is  $2/9 \times 1/10 = 1/45$ , as required.

The overall probability of selection of any dwelling in any block is the product of the two probabilities: the probability of selection of the block and probability of selection of the sample dwelling within the sample block. During the process of numbering the blocks (section c) we assign block unit numbers as "measures of size" ( $Z_i$ ) in accord with the number of apparent dwelling units in the block; and this measure  $Z_i$  is used in opposite and balancing ways in the two intervals pertaining to the two stages of selection. It is to the list of consecutive block unit numbers that the interval  $I_b$  is applied. The probabilities of selection are now represented for the two stages as:  $Z_i/I_b \times 1/Z_i$ ,  $I_w = 1/I_b$ . (In our example this is  $Z_i/9 \times 1/Z_i = 1/45$ .)

Here  $1/I_b$  (1 in 45) stands for the overall probability of selection of any dwelling in any block in the city. The probability of selection within a specific (the "ith") block is represented by  $1/Z_i$ ,  $I_w$ ; that is an interval of  $Z_i \times I_w$ . The measure of size  $Z_i$  varies from block to block; for most blocks it is one, for some it is two, and for others three or more.

The probability of selection is determined by the application of the sampling intervals and is independent of any inaccuracies and deficiencies in the measure of size ( $Z_i$ ). Insofar as the measures of size are made proportional to the total number of dwellings in the block, the procedure yields equal numbers of subsampled dwellings from blocks which vary in total size. In practice this process cannot be complete, and it need not be. The subsample will vary some but it is enough if most of the variation can thus be eliminated. Moderate variations in block size are of no great concern,

but blocks with four times or forty times the usual number of dwellings should be kept under control by assigning sufficient block unit numbers to them.

There are blocks which appear to contain few, if any, dwellings; they occur frequently on the thinly populated edges of the city and also in the commercial areas. A block of this kind may be attached to a neighboring block and the couple treated as one block unit. This treatment reduces the cost of looking at these "empty" blocks because the work is done together with that on the more productive blocks. However, the large and sparsely settled blocks often found on the edges of the city should be assigned block units somewhat generously because they are particularly subject to great and uneven rates of growth.

#### AN ILLUSTRATION

The table below is an illustration of what we might obtain if we used the procedures and the rates mentioned in the text. After the random start from 1 to 9 turns out to be 2, the interval of 9 for selecting sample blocks is applied. The sample blocks are given field numbers; dwellings are listed in the sample blocks; and the respective intervals (equal in each case to  $5Z_i$ ) are applied in each sample block. The numbers of sample addresses are seen in the last column to vary some, but not nearly as much as the total number of addresses in the preceding column.

#### APPENDIX

The letters and numbers at the head of the paragraphs refer to the sections of the text to which these points chiefly pertain. The footnotes contain references to a few convenient publications which may serve as leads for exploring more adequately these points.

*Procedures of Estimation* are considered profitably together with the selection procedure as part of the sample design.<sup>2</sup> Good design and proper use of available supplementary information may sometimes bring about striking reductions of the sampling errors of sample estimates.

<sup>2</sup> F. Yates, "Sampling Methods for Censuses and Surveys," New York: Hafner, 1949, pp. 145-182; W. E. Deming, "Some Theory of Sampling," New York: Wiley, 1950, pp. 87-97, 242-246, 142-144; P. J. McCarthy, "Sampling" Bulletin #15 (1951), N. Y. State School of Industrial and Labor Relations, Cornell University, Ithaca, N. Y., pp. 1-4; also printed as Chapter 20 in M. Jahoda, M. Deutsch and S. W. Cook, *Research Methods in Social Relations*, Part II, New York: Dryden Press, 1951, pp. 644-647.

Selection Numbers	Block Unit Numbers	Field Block Numbers	Interval within the Block=5Z <sub>1</sub>	Random Start within the Block	Total Number of Lines Listed in Block	Line Numbers (Addresses) Selected into Sample
2	2	1	5	3	12	3, 8
11	10, 11	2	10	9	67	9, 19, 29, 39, 49, 59
20	20	3	5	5	4	None
29	29	4	5	2	14	2, 7, 12
38	37, 38, 39	5	15	12	90	12, 27, 42, 57, 72, 87
..	..	..	..	..	..	..
..	..	..	..	..	..	..
..	..	..	..	..	..	..
..	..	..	..	..	..	..
533	533	60	5	1	16	1, 6, 11, 16

It is advisable to take measures *before* the data are gathered to insure a feasible plan for the calculation of sampling errors. The widely known formulas—( $\sqrt{pq/n}$  and  $s/\sqrt{n}$ ), devised for a simple random sample of  $n$  elements selected independently of each other—are not valid as estimates of the standard error of the sample mean for the sampling design described here. In general, because of the effect of clustering, the true standard error tends to be higher than those formulas indicate; hence confidence intervals based on them would be too short; therefore, the person using them would be wrong more often than he expects to be—perhaps considerably. Steps should be taken to insure the calculation of satisfactory estimates of the standard errors for at least some of the sample results.<sup>3</sup>

"Giving a probability" means a great deal more than making assumptions. It refers to a long chain of procedures involving the actions of several—perhaps many—persons, and ending in the tabulation of coded responses. A most important link in this chain is the field interviewer who must carry out correctly a set of specific instructions. Only in so far as every element in the population has a known non-zero probability of being selected can statistical theory be utilized to make inferences from the sample values to the population values.<sup>4</sup>

"Being Selected" refers here to the designa-

tion of a set of sample addresses. Not touched on here are the errors of non-response arising from non-listing, non-interview, and non-ascertaining of answers; all the many possible kinds of errors of response are neglected also.<sup>5</sup>

Equal probabilities are convenient because the sample estimates, such as means, proportions, can then be obtained by simple addition of all the sample cases. If different classes or strata of the population elements are assigned different probabilities of being selected then the sample cases must be weighted when they are combined for a sample estimate.

*Sample* here refers to one specific survey. With little trouble the same materials may be used to yield another sample of dwellings from the same, or from different blocks. The selection of a random sample of sampling units also leaves unselected a random sample of sampling units. Furthermore, the designated sampling fraction may be altered by changing either  $I_b$  or  $I_w$  or both. If several uses are anticipated  $I_w$  may be planned accordingly.

*The Dwelling Unit* is used as a convenient way of getting at a population of persons because it is readily identifiable, usually contains but few persons, and every person in the population can be identified with one and only one of them. This generally useful characteristic has some troublesome exceptions. Some people actually have more than one dwelling, and one of them has to be designated as the one to which they are attached for purposes of the sample selection.

Some people do not live in private dwelling units, but in living quarters which cannot be handled readily by the general procedure because of their nature and size. They are

<sup>3</sup> F. Yates, *op. cit.*, pp. 183-245, particularly 229-230; W. E. Deming, *op. cit.*, pp. 329-355, particularly 352-355.

<sup>4</sup> W. E. Deming, *op. cit.*, Chapters 1 and 2; F. Yates, *op. cit.*, Chapters 1 and 2; P. J. McCarthy and F. F. Stephan, "Area Sampling," *The American Statistician*, 5 (February, 1951), pp. 20-21; M. H. Hansen and P. M. Hauser, "Area Sampling: Some Principles of Sample Design," *Public Opinion Quarterly* (Summer, 1945), pp. 183-193; M. H. Hansen and W. N. Hurwitz, "Dependable Samples for Market Surveys," *Journal of Marketing* (October, 1949), pp. 363-372.

<sup>5</sup> M. H. Hansen, W. N. Hurwitz, E. S. Marks, and W. P. Mauldin, "Response Errors in Surveys," *Journal of the American Statistical Association*, 46 (June, 1951), pp. 147-190; see also the chapters of Deming and Yates referred to under 4.

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chiefly (a) hotels and large rooming houses (10 or more roomers in accord with the Census definition), trailer camps, tourist courts and the like; and (b) institutions such as hospitals, convents, dormitories, military installations, etc. Usually these contain so small a proportion of the total population that they may be excluded explicitly from a small sample of one city. However, they may be included separately by means of specifically designed procedures.<sup>6</sup>

There is the question of the identification of the members of the population with the dwelling unit. If the population is so defined that there is but a single member per dwelling unit then this identification is merely a problem of definition (e.g. household head, homemaker, head of principal family, etc.). However, the population may be such that there may be several members per dwelling unit, (spending units, all adults, persons over 65, etc.). In that case: (a) One may include all members of the population found in the sample dwellings. This may be done by interviewing each separately, or by obtaining information from one member about all of them; (b) Or a selection may be made among the members of the population found in the sample dwellings, thus introducing a third stage in the selection process.<sup>7</sup> Now the probability of selection of any member of the population is to be seen as the product of the three probabilities assigned in the three stages.

If there is either more or less than one sample case per dwelling unit then in planning the size of the survey it will be necessary to translate the planned number of sample cases into a number of sample dwellings from which they are expected to be obtained.

Furthermore, these remarks may be translated to apply to methods of observation other than interviewing, and to non-human populations which may be identified with the dwelling unit.

The Two-Stage Sample recommended here is useful in many places, but in others different plans may be used. For example, one may disregard blocks and use the interval  $I_c$  on the complete listing of all dwelling units in the city. This may be done if a good city directory is available; however, measures should be taken

to include missed dwellings and to iron out some other difficulties that may arise. If a complete listing of the population exists (a rationing list, or a national register) then a sample of persons may be drawn directly from it.<sup>8</sup>

Contrariwise, one may simply sample blocks with the overall interval  $I_c$  and take into the sample all the dwellings located on them; in which case a separate listing procedure is unnecessary. This may appear desirable particularly where the average number of dwelling units per block is not too great, say about six or less; and this often occurs on blocks of small towns, and also in case these procedures are applied to the sampling of segments of open country areas.

Furthermore, the block can be used for selecting a sample not only of dwelling units but of any population the elements of which can be associated uniquely with specific blocks. For example one may sample grocery stores, or house flies, or single-family-newly-constructed-homes, and the like.

In some sample surveys of the Census Bureau the blocks are divided, with the use of the special maps, into sampling units of about six dwellings each. In some cases it may be worthwhile to select a group of blocks, a larger area such as a city tract, a Census Enumeration District, or simply an area outlined on the map. This stage of selection may be auxiliary to the selection of blocks to follow it, or it may replace the latter.

a. The boundaries should be unambiguous in the sense that any dwelling unit will have a chance to come into the sample with one and only one block. In other words the dwelling should get assigned on the same side of the boundary regardless of which side of the boundary is selected into the sample.

b. The use of city limits and other political boundaries will result often in block boundaries which are not physical landmarks. These may be tolerable, particularly because the occupants usually know in which city, township, county, etc., their dwelling is located. Be wary, however, of planned streets, subdivisions and such, which sometimes appear on maps long before construction.

c. The numbering establishes a "list" (or "frame") of all the blocks in the city. A listing procedure, either explicit or implicit, for all the "sampling units" at each stage of selection is necessary for probability sampling in order

<sup>6</sup> Sampling Staff of the Bureau of the Census, "A Chapter in Population Sampling," Washington: U. S. Government Printing Office, pp. 5-11; U. S. Bureau of the Census, "Enumerators' Reference Manual," Washington: U. S. Government Printing Office, 1950.

<sup>7</sup> L. Kish, "A Procedure for Objective Respondent Selection within the Household," *Journal of the American Statistical Association*, 44 (September, 1949), pp. 380-387.

<sup>8</sup> F. Yates, *op. cit.*, pp. 20-21, 29-30, 60-80; W. E. Deming, *op. cit.*, p. 82; M. H. Hansen, "Sampling of Human Populations," *Proceedings of the International Statistical Conferences*, 25th Session of the International Stat. Inst., III, pt. A, pp. 113-126.

that the identification may be made unambiguously from the random number drawn to a number on a list and then to a physical sampling unit. The procedures in sections f and h describe how the lists are established for all the dwelling units in the selected sample blocks. The application of an interval to a list is always made after a random start. And this means looking up a number between 1 and the interval in a table of random numbers. This is the step taken to obtain the known probability of selection of units from the list.<sup>9</sup>

d1. Note that both the costs and the precision of the sample depend directly on the size of the sample ( $n$ ), and not on the sampling fraction ( $n/N$ ).<sup>10</sup> Of course, for the described design divergence from the planned  $n$  will occur. There is the variation due to the differences in the numbers of dwellings per block. There may be some non-responses due to refusals, not-at-homes, illness, etc. It is generally best to adopt procedures for obtaining as many of the designated addresses as is practically possible; and to resist the urge to "substitute."

If the city is only one of the sampling units in a larger sample, its sampling fraction will be derived from the design for the latter. However, after it is derived the rest of the procedure will be similar.

d2. As the terms are used in this paper the sampling rate is equal to the sampling fraction and to the probability of selection; and all of them are equal to a number not greater than one. The sampling interval is the reciprocal of that number, and not less than one.

d3. There are two numbers then—the numbers of sample dwellings ( $n$ ) and the numbers of sample blocks ( $\frac{n}{a}$ ) which affect the sample design. Increasing either adds to the cost of the survey but decreases the variance of the sample estimates. Viewed in this light the fixing of  $n$  as in d1 is but a first approximation. Rather we may fix the total cost and then search for that combination of the two numbers which gives the smallest variance. Or we may set allowable margins of variation (confidence intervals) and look for the design which yields them for the least cost.<sup>11</sup>

e. In this procedure the selections are determined through fixed intervals, and not by fixed numbers (for example: "quotas") of selections. The sampling intervals are the means used

for determining the probability of selection of any dwelling unit in any block in the city. This method of probability sampling—known as "systematic sampling"—is very frequently used.<sup>12</sup>

Using an interval with a decimal fraction (such as 9.2) is simple. Select a random start from 1 to 92 and add the interval 92 successively. Then "round down" by eliminating the last digits. Thus, block 1 would be selected by any of the ten random starts from 10 to 19; block 2 by any of the ten from 20 to 29. Block 9 would be selected by 90, 91, 92 plus the seven from 01 to 07. Block 10 is selected by the ten numbers from 08 to 17. Thus any block will be selected by 10 of the 92 possible random starts.

f. An alternative plan saves the extra trip to the block by doing the interviewing (or the first call) at the time of the listing. Still another plan avoids the cost of the listing by simply having the interviewer count off the dwellings, and select among them according to a stated random start followed by an interval. Both of these have less control over the interviewer than the procedure given in the text. If either is employed, the instructions should specify the rules for proceeding around the block so as to reduce the latitude which would allow the interviewer—very naturally, honestly, perhaps universally—to avoid homes with ferocious dogs, apartments on top floors, refusals and not-at-homes. The first alternative procedure can be improved by asking the interviewer to list the block without his knowing the selected lines; the latter are "hidden" in an envelope or behind a seal until the listing is finished.

The listing of the block may be made to yield more than just the address for more complicated sample designs. For example, ratings of economic levels may be obtained to be used for stratification, for sampling different groups with varying probabilities, and for other uses. Or one may go further and list all the people on the block and also obtain a few characteristics to be used in later stages such as the age, sex, and occupation of the inhabitants of the dwellings on the block.

g. If the interval within the block is  $Z_1 I_w$  then a random number between 1 and the number represented by  $Z_1 I_w$  must be obtained from a table of random numbers to serve as a start.

i. Because the word has so many diverse meanings, a definition of what samplers mean by stratification is in order. Stratified sampling

<sup>9</sup> W. E. Deming, *op. cit.*, pp. 77-86; F. Yates, *op. cit.*, pp. 19-20 and 60-87; Statistical Office of the United Nations, "Statistical Papers," Series C, No. 1 (January, 1949), Lake Success, N. Y., 9 pp.

<sup>10</sup> F. Yates, *op. cit.*, pp. 94-101, and 246 ff.

<sup>11</sup> W. E. Deming, *op. cit.*, pp. 150-153; F. Yates, *op. cit.*, pp. 286-287.

<sup>12</sup> W. E. Deming, *op. cit.*, p. 83; F. Yates, *op. cit.*, p. 29 and p. 67.

is the procedure of dividing the population into subpopulations (called strata) and then selecting a sample within each. Every sampling unit in the population is placed in some one of the strata prior to the selection of the sample. The purpose of stratification is the reduction of the variances of sample estimates; it is achieved insofar as the variation (with regard to characteristics to be estimated) among sampling units within the strata is less than their variation throughout the population. Hence, in stratifying one attempts to make the sampling units within a stratum as homogeneous as possible. Stratification is used in almost all sampling undertakings, because it is generally beneficial, and also easy to apply. However, the role of stratification in sample design has been misunderstood and exaggerated often.<sup>13</sup>

In our example the stratification of the blocks was implicit in the procedures. However, if the strata are explicitly formed, the procedures of selection in each of the strata are independent of each other. In each of the strata one may decide separately and independently on the selection rates, and on the sampling and other procedures he wants to use.

The unusual or very large blocks mentioned in the section may be handled simply by assigning to such a block, or groups of blocks,  $I_c$  consecutive selection numbers. This has the effect of making these blocks into a stratum in which all the dwellings are listed, and then sampled with the total sampling interval  $I_c$ .

k. Where does one obtain the information he needs on number of dwelling units in each of the blocks of the city so that he may assign measures of size? There are several sources of materials for this purpose of which one or more may be available for the city. Some of these are: Census Block Statistics; Aerial photographs;<sup>14</sup> the City Engineer or the City Planning Office; the Real Estate Board, or

the Chamber of Commerce, or the local bank, the local newspaper, some local public utility, etc. Some other sampling materials, as well as advice, may in some cases be obtained from the Census Bureau. If all these fail, one may resort to some cheap rough estimates (perhaps just a glance from a moving car) to be made for all the blocks of the city, or for a large sample of them. In smaller cities where vertical building is lacking, the circumference of the block may be taken as roughly proportional to the number of dwellings in it.

The use of block units ( $Z_i$ ) is aimed at equalizing roughly the number of dwellings subsampled from blocks which contain unequal numbers of dwelling units. This procedure may be looked upon as an example of selection with "probabilities proportional to a measure of size." If  $P_i$  is taken as the estimate of the number of dwelling units in the block, it takes the place of  $Z_i \times aI_w$ ; and we have for the two stages of selection:  $P_i/aI_c \times a/P_i = 1/I_c$ . The probability of selection of the block is directly proportional to the measure of size  $P_i$ , whereas the probability of selection within the block is inversely proportional to it. In our example we would have  $P_i/(3 \times 45) \times 3/P_i = 1/45$ .

The assigning of the varying measures of size will not eliminate all variation in the subsamples obtained from the various blocks. For one thing the number of dwellings in the block will not be in general an exact multiple of the sampling interval; therefore, the number of sample dwellings actually obtained may be different (by the fraction of one dwelling) from that expected on the average. Another source of variation is more important; it may be summarized as arising from the measures of size not being exactly proportional to the actual number of dwelling units listed in each of the blocks. This divergence may be due to a variety of reasons: inaccuracy or obsolescence of the source of the data, inaccuracies in listing, differences of definition, or differences in the units of measurement. All these possible differences will affect the actual size of the sample obtained from the block. However, none of these change the probability of selection of any dwelling in any block, because that is determined by the intervals of selection.

<sup>13</sup> W. E. Deming, *op. cit.*, p. 241; F. Yates, *op. cit.*, p. 23.

<sup>14</sup> These may be purchased in most cases from the Production and Marketing Administration of the U. S. Department of Agriculture.

## COMMUNICATIONS AND OPINION



### TRENDS IN CAPACITY FOR INTELLIGENCE

#### *To the Editor:*

An article by Professor O. D. Duncan in the *American Sociological Review*, August, 1952, entitled "Is the Intelligence of the General Population Declining?", begins with an examination of some statements on this subject by Robert C. Cook in *Human Fertility: The Modern Dilemma* and proceeds to a general treatment of the topic indicated by title.

In the first of these undertakings, Professor Duncan successfully demonstrates that some of Mr. Cook's statements involve inaccurate use of references and unwarranted conclusions. In the second, more general undertaking, Professor Duncan's treatment is not wholly free from the attributes that mar the exposition which he criticizes.

In the reference to the *Dynamics of Population* by Lorimer and Osborn, the author of the article states that the results of a calculation reported in Chapter IX of this book were "taken by the authors as an estimate of the expected decline in the average intelligence, attributable to differential occupational fertility, over a period of one generation."<sup>1</sup> Because the article in general deals with the thesis of "gene erosion," or decline in genetic capacity for intelligence, this statement without the qualifications explicitly set forth by the authors conveys the impression that Lorimer and Osborn presented the results to which he refers as evidence of a decline in genetic capacity. This is inaccurate. The authors' own interpretation of the material is as follows: "These results indicate a tendency toward a gradual lowering of the average cultural-intellectual level of the American people as an effect of present reproduction trends among different so-

<sup>1</sup> The material to which Professor Duncan refers appears in *Dynamics of Population*, pp. 188-193, in Chapter IX. The reference by Professor Duncan to "Chapter VIII" is a trivial inaccuracy. However, the use of this material by the authors in Chapter IX, "Social Significance of Group Differentials" rather than in Chapter X, "Biological Significance of Group Differentials" was intentional and is significant.

cial groups. . . . This tendency may, in any case, be temporarily offset by the influence of economic, educational, and cultural advance. In so far as this tendency is wholly due to environmental factors it might be indefinitely offset by cultural advance. . . . If part of this tendency . . . may be attributed to the influence of hereditary factors, the problem raised becomes still more serious."<sup>2</sup> In spite of these reservations, Mr. Cook cited this material explicitly as evidence of "gene erosion." It is regrettable that Professor Duncan's use of the material appears to perpetuate this misinterpretation.

Professor Duncan gives two statements of a general conclusion on the question at issue. The first statement is that "the hypothesis of declining intelligence need not be accepted—though admittedly, the problem is one which calls for further research."<sup>3</sup> This is a reasonable position in view of the indirect nature of the evidence advanced by various authors, including myself, in support of this hypothesis as a general proposition with respect to European and American society during the last half century, and ambiguities in the interpretation of this evidence. The restatement of this conclusion at a later point in the article unfortunately becomes more dogmatic: "This paper holds the hypothesis of declining intelligence to be untenable—and the 'modern dilemma' in that respect to be most unfortunately misstated."<sup>4</sup> The negative affirmation in the first part of this statement seems to me to lack substantial foundation.

The article under discussion deals with an extremely difficult and important problem on which the prejudices which tend to be engendered by social inquiries conflict with the prejudices which tend to be engendered by biological studies. Progress toward valid conclusions on this subject can only be achieved in two ways: (1) much more extensive and well-planned research and (2) accurate formulations of the implications of our present limited knowledge and of critical problems for

<sup>2</sup> *Ibid.*, p. 191.

<sup>3</sup> Duncan, *op. cit.*, p. 402.

<sup>4</sup> *Ibid.*, p. 407.

research. Any generalizations must be stated with large reservations. Presumably under some conditions differential fertility is dysgenic, and under other conditions it is not. These conditions have not as yet been adequately defined.

A recent review of the problem by the present writer led to conclusions somewhat different from those stated by Professor Duncan. These conclusions are not set forth as having final validity; in fact, they are explicitly labeled "Tentative Conclusions"; but they are presented as reasonable or in other words "tenable" propositions.<sup>5</sup>

FRANK LORIMER

*The American University*

#### COMMENT ON LORIMER STATEMENT

*To the Editor:*

In the absence of the kind of research called for in my paper and in Professor Lorimer's criticism of it, careful discussion of the existing fragmentary evidence is obviously of some

value, and is the only available protection against bias in reaching conclusions. It is therefore a pleasure to commend to the attention of readers of the *Review* the cited paper in *Eugenical News*. "Tentative Conclusions" 1 and 2 of this paper seemingly amount to a qualified restatement of the earlier conclusion that "the best evidence now available indicates that the usual negative correlation between fertility and social status involves a gradual decline in *average hereditary capacity* for intellectual development."<sup>1</sup> In view of his cautious handling of the matter, both in earlier and recent work, Professor Lorimer clearly should not be held responsible for the loose metaphor, "gene erosion."

I should be happy to restate my conclusion that "the hypothesis of declining intelligence (is) untenable" to read: "Insufficient evidence exists to warrant rejection of the null hypothesis of no trend in genetic capacity for intelligence."

OTIS DUDLEY DUNCAN

*University of Chicago*

<sup>5</sup> Frank Lorimer, "Trends in Capacity for Intelligence," *Eugenical News*, June, 1952, pp. 17-24. Reprint available on request.

<sup>1</sup> *Dynamics of Population*, p. 344 (emphasis added).

#### EDITOR'S NOTE

The Editor has received several letters from readers expressing disapproval of a review in the October 1952 issue (pp. 642-643) of Curtis D. MacDougall, *Understanding Public Opinion*. The Editor and the Executive Committee of the Society have decided to depart from custom and publish a second review, which is planned for the earliest possible issue.

In response to a request from the Editor, the Executive Committee has offered the following two principles to be followed in the policies regarding book reviews:

(1) In this period of hysteria, more than ever before, the American Sociological Society has a moral obligation to stand for the protection of human rights of social scientists when irresponsibly threatened.

(2) The American Sociological Society has a moral obligation to the readers of its *Review* to assure them that as far as possible book reviewers are scholars with integrity who are free from editorial dictation to express their honest opinion of the book. This includes the freedom of the reviewer to indicate bias on the part of an author, whatever its source, provided that such bias is relevant to the scholarly character of the book and provided that principle (1) above is not violated. Direct evidence of how alleged bias affects the content of a book should be cited and documented if the charge of bias is made.

## OFFICIAL REPORTS AND PROCEEDINGS



### PROCEEDINGS OF THE 47TH ANNUAL MEETING OF THE AMERICAN SOCIOLOGICAL SOCIETY, HELD IN ATLANTIC CITY, NEW JERSEY, SEPTEMBER 2-5, 1952

#### MINUTES OF COUNCIL MEETINGS

##### *First Meeting of the Council—September 2, 1952*

The first meeting of the Council was called to order at 10 a.m. on September 2, 1952, by President Thomas with the following members present: Talcott Parsons, Peter Lejins, Read Bain, Samuel Stouffer, Ira Reid, Robert Faris, Conrad Taeuber, Robert Merton, Leonard Broom, Katharine Jocher, and Matilda Riley, ex officio.

The general procedure for the conduct of the Council, as provided by the Constitution, was outlined, and it was informally agreed that a brief statement on the relationship between the meetings of the Council and of the general membership should be prepared for the first membership meeting.

The Minutes of the last meeting of the Council, held in Chicago on September 7, 1951, which have subsequently been published in *The American Sociological Review* as part of the records of the Society, were approved as therein reported. The matters which were pending from that meeting were reviewed and placed upon the agenda.

The annual report from the Secretary, including the interim actions of the Executive Committee and the Council, was accepted and will be reported in full to the membership at its first 1952 Business Meeting.

It was moved and passed that, in the event the American Association for the Advancement of Science so-called prize in sociology was again announced in a way held to be unsatisfactory to the profession of sociology, the Society should dissociate itself from the prize.

In line with the recommendation in the Secretary's report regarding special sociological interests, their organization and relationship to the Society, an *ad hoc* Committee, consisting of Talcott Parsons, Chairman, Ira Reid, and Robert Merton, was appointed and instructed to report back at the next meeting of the Council.

George Haganir reported briefly for the Committee on Local Arrangements and called for

the Council's cooperation in respect to the informal reception to be held on the evening of the third.

The report of the Committee on Contributed Papers was read and accepted and arrangements were made to publicize the new sessions on special research at the first general session of the Society. Mimeographed abstracts of the thirty projects selected for the two special sessions will be available to those interested. The full report of this Committee appears below.

The report of the Editor was read and accepted and will be reported in full at one of the membership meetings. This report will also be accompanied by a proposed amendment to the By-laws which calls for nine instead of six assistant editors. This amendment, in line with a previous Council recommendation, will be presented to the membership for action.

In regard to the election of a new Secretary, the Council asked that the present incumbent reconsider his resignation. The Secretary had previously stated his position that any Society officer who carried even minor policy-making functions, in contrast, for example, to the duties of the Executive Officer which can properly be described in civil service terms, should not continue as incumbent for longer than three years. Consequently, in view of the unanimous refusal of the Council to accept this principle as applied to the Secretaryship because of the desirability of continuity, the present Secretary reluctantly agreed to continue in office with the understanding that his position in the matter be made perfectly clear to the Society.

The report of the Executive Officer was read and accepted with the understanding that in line with the previous recommendations of the Budget Committee and the Council an amendment be introduced by the Chairman of the Budget Committee at the first Business Meeting calling for certain increases in the dues structure. The Executive Officer's report appears in full below.

It was moved and passed that it be the policy of the Society to publish a Directory of

its members at least every three years, and the immediate issue was referred to the Publications Committee for further study.

A statement from the Chairman of the Committee on Standards and Ethics in Research Practice was received, and since the first meeting of this Committee is to be held on the first day of the 1952 Annual Meeting, the Chairman was invited to appear before the next meeting of the Council and present a report by the Committee.

In addition to the above-mentioned Committee reports, the Council also received informative reports requiring no immediate action from the chairmen of various committees: Wellman Warner of the Membership Committee, Jessie Bernard of the Publications Committee, and Leslie Zeleny of the Committee for Liaison with the National Council for the Social Studies. These reports are to be read in part into the minutes of the membership meeting and will be published in full in the *Review* as part of the official proceedings.

Word was also received from the Chairman of the Committee on the Bernays Award, F. Stuart Chapin, that a decision had been reached on this year's entries and that the award would be announced on September 4.

The report of the Committee on Training and Professional Standards as submitted by its Chairman, Harry Alpert, was received. This report was in the nature of a progress report and required no action. It appears in full below.

A brief report from the Committee on Social Statistics, P. K. Whelpton, Chairman, was received and referred to the Executive Committee since the continuation of this Committee will depend in part upon further developments within the American Statistical Association. This Committee was originally formed to cooperate with a comparable committee of the American Statistical Association.

In addition, reports were received from the Society's delegates and representatives to various other organizations and will be reported to the membership via the appropriate channels.

The meeting was declared adjourned at 7 p.m.

#### *Second Meeting of the Council—September 3, 1952*

The second meeting of the Council was called to order at 3:30 p.m. on September 3 by President Thomas with the following members present: Peter Lejins, Katharine Jocher, Clifford Kirkpatrick, Ira Reid, Robert Merton, Talcott Parsons, Robert Angell, Leonard Broom, Samuel Stouffer, Robert Faris, Conrad Taeuber, Read Bain and Matilda Riley, ex officio.

A Resolutions Committee consisting of Donald Young, Chairman, Read Bain, and Paul Hatt was elected.

Talcott Parsons reported for the special Committee on Specialized Sociological Interests, indicating three types of issues: (1) local arrangements, (2) program coordination, (3) constitutional or formal affiliation. It was agreed that such interests should make overtures to the Society on (1) and (2) if they were to meet in the same place. Regarding (3) it was agreed that any such groups should take the initiative and that a joint committee would probably be the most feasible way of proceeding.

It was agreed that the 1953 meetings would be held in cooperation with the Pacific Sociological Society which is abandoning its own annual meeting in order to bring its members to the national meeting.

Judson Landis reported for the 1953 Committee on Local Arrangements. It seems clear that adequate university facilities will be available at the University of California, and the Council expressed its appreciation to Professor Landis for his helpful report.

It was moved and passed that a sum of \$5,000 should be gratefully accepted by the Society, the income from which is to be used as the Robert MacIver Award. A Committee was proposed to work out the details for the handling of the award as follows: Robert Merton, Wellman Warner, Leland DeVinney, Robert Faris, and Theodore Abel, Chairman. This slate was unanimously agreed upon by the Council.

Peter Lejins reported on possible 1954 arrangements in Washington, D. C. It was, however, moved and passed that, if the American Statistical Association can move its Montreal dates closer to the first of September, Montreal should be further considered as the location for the Society's 1954 meetings. At the same time, Washington will be further investigated as to the possibility of centrally located university facilities.

Alfred M. Lee reported further as the Chairman of the Committee on Standards and Ethics in Research Practice and commented briefly on his recommended actions:

"1. That a Committee on Standards and Ethics in Research Practice of a more representative character be established with a period of tenure longer than one year;

"2. That such a Committee be given sufficient facilities so that it may collect and analyze cases in the manner so admirably followed by the American Psychological Association Committee on Ethical Standards for Psychology;

"3. That such a Committee also be given adequate opportunities to organize symposia and to

present reports in print which, without reference to specific personalities, will help to develop principles in terms of actual cases; and

"4. That the present report be made available to the membership as a whole."

These recommendations are to be considered at the Council's next meeting.

The meeting was declared adjourned at 6 p.m.

### *Third Meeting of the Council—September 4, 1952*

The third meeting of the Council was called to order at 4 p.m. on September 4 by President Thomas with the following members present: Conrad Taeuber, Katharine Jocher, Clifford Kirkpatrick, Robert Merton, Read Bain, Robert Angell, Leonard Broom, Robert Faris, Thomas Eliot, Samuel Stouffer, Matilda Riley, ex officio.

A resolution calling for more adequate official statistics on marriage and divorce was referred to the Committee on Social Statistics.

Invitations were received from Columbus, Ohio, and Minneapolis, Minnesota, as possible locations for the 1955 meetings, and the Executive Office was instructed to look into both.

The report of the Research Committee was accepted along with its recommendation that summarized lists of projects be available in mimeographed form upon request. President-Elect Stouffer also announced plans for extensive use of the research census in constructing the program for the 1953 meeting.

It was moved and passed that the Committee on Standards and Ethics in Research Practice be continued on an enlarged membership basis and that the statement prepared by the Chairman of the present Committee, in lieu of a committee report, be transmitted to the new committee as a basic working document.

Several requests from the International Sociological Association resulted in the following actions: The Secretary was empowered, after study of the ISA Constitution, to recognize Robert Angell and Franklin Frazier as the properly constituted representatives from the American Sociological Society. The request for trend reports on American sociological research is to be filled by the topical trend reports already prepared or in process by the Research Committee. The one hundred copies of *Current Sociology*, a bibliography published by UNESCO, are to be sent to the chairmen of graduate departments for possible addition to the respective university libraries.

The announcement of the next ISA meetings to be held in Liege in 1953 is to be made at the next Business Meeting and interested members referred to Robert Angell, Chairman

of the Society's Committee on Relations with Sociologists in Other Countries.

With respect to the inclusion in the international bibliography of "fugitive" sociological data published in the United States, the matter was also referred to this same Committee, as was a similar request to investigate the feasibility of an international abstract service for sociology. It was also voted that the Society should pay annual dues to the ISA in the amount of \$100.

Finally, the fact of the severance of the American Sociological Society from the International Federation of Sociological Societies and Institutes was voted, and the Chairman of the Committee on Relations with Sociologists in Other Countries instructed to inform interested groups including the U. S. Department of State.

The meeting was declared adjourned at 5:45 p.m.

### *The First Meeting of the 1953 Council, September 5, 1952*

The first meeting of the 1953 Council was called to order by President Samuel A. Stouffer at 9 a.m. on September 5, with the following members present: Dorothy Thomas, Florian Znaniecki, Robert Faris, Jessie Bernard, Robert Angell, Robert Merton, August Hollingshead, Charles Hutchinson, Guy Johnson, Katharine Jocher, Read Bain, Calvin Schmid, Leonard Broom, Thomas Eliot, Matilda Riley, ex officio.

Since the time of the Council meeting preceded the final 1952 Business Meeting, it was decided to take action subject to ratification by mail ballot of all members of the Council. With this proviso the following actions were taken (these have since been approved by the Council):

Katharine Jocher and Robert Merton were elected members of the Executive Committee.

Dorothy Thomas was elected representative to SSRC.

The following assistant editors were elected to serve on the *American Sociological Review*:

Brewton Berry .....	3 year term
Leonard Broom .....	3 year term
Paul Wallin .....	3 year term
Daniel Price .....	2 year term
Robert Bierstedt .....	1 year term

Conrad Taeuber, Chairman, Harry Alpert, Robert Ford were elected to the Budget Committee. Milton Barron was elected to the Classification Committee.

The following were elected to the 1954 Program Committee:

Everett Hughes  
Robert Bierstedt  
August Hollingshead

The following were elected to the Committee on Training and Professional Standards:

Calvin Schmid, Chairman  
 Meyer Nimkoff  
 William Noland  
 Elio Monachesi  
 John Foscett  
 J. P. Fitzpatrick  
 Harry Alpert  
 Ruby Jo Kennedy

Raymond Bowers was elected representative to the AAAS.

A committee was set up composed of Raymond Bowers, Chairman, and Conrad Taeuber to consider ways and means and to get together with delegates of the other social sciences to consider the whole relationship of the social sciences to the AAAS and to report back to the Council.

The Subcommittee on Special Sociological Interests reported on their meeting with a Subcommittee of the Society for the Study of Social Problems. It was noted that "the program of the affiliated organization shall be coordinated with the program of the Society insofar as possible" and that "affiliated organizations shall be entitled to the opportunity to publish notices of their activities in the publications of the Society." In regard to housekeeping details, it is provided in the Society's By-laws that affiliated organizations are entitled to such services by the Executive Office of the Society as the Council may determine. If the Society for the Study of Social Problems decides to apply for affiliation, this will be submitted to the membership of the American Sociological Society by mail ballot. The Subcommittee on Special Sociological Interests, consisting of Robert Angell, Robert Merton, Ira deA. Reid, and Talcott Parsons will be continued during the year.

Respectfully submitted,  
 JOHN W. RILEY, JR.  
 Secretary

## MINUTES OF THE BUSINESS MEETINGS OF THE SOCIETY

*The first Business Meeting of the Society* was called to order at 11:00 a.m. on September 4, 1952, by President Thomas.

The Minutes of the last meeting as reported in the December 1951 *Review* were accepted as published.

President Thomas commented briefly on the first activities of the Council under the new Constitution, pointing out that the Council is "the permanent governing body of the Society" and that at the general meetings of the membership "the Officers and the Council shall report to the Society and any business of the Society may be transacted."

The reports of the Secretary and of the first two meetings of the Council were accepted. (These are published in full elsewhere in these Proceedings.)

President Thomas expressed the gratification of the Council that the Secretary had agreed

to withdraw his resignation, and upon motion from the floor it was unanimously voted that this be the expressed sentiment of the Society.

The report of the Executive Officer (published in full) was accepted. This was followed by a statement from Chairman Taeuber of the Budget Committee who proposed and gave the reasons for the following amendment to the By-laws which was laid on the table: A motion to amend Article I, Sections 1, 3, 4, 8 and 9 of the By-laws pertaining to the annual dues payable by the various classes of membership so as to provide for:

an increase in Active and Associates dues from \$8 to \$10,

an increase in dues of Student members from \$4 to \$5,

an increase in the dues of a joint membership from \$9 to \$11,

and also to provide that any Active or Associate member may become a Donor of the Society upon the payment of \$20 or more per annum instead of \$10 as the By-laws now read.

The report of the Editor (published in full) was accepted, and after some discussion and minor changes, two proposed amendments to the By-laws were laid on the table as follows: A motion to amend Article IV, Section 2 of the By-laws pertaining to the composition of the Board of Editors of the *American Sociological Review* so as to provide for the determination by the Council of the number of Assistant Editors and their terms of office provided that there be no less than six holding office at all times. And also: A motion to add an Article to the By-laws to the effect that the Business Meetings of the Society be governed by Robert's *Rules of Order*.

The following letter, addressed to President Thomas by Ernest W. Burgess, President of the Society for the Study of Social Problems, was read for the information of the membership:

"This afternoon a joint committee of the American Sociological Society, consisting of Talcott Parsons, Ira Reid, and Robert Merton, and of the Society for the Study of Social Problems, consisting of Alfred M. Lee, Ira Reid, and Jessie Bernard, appointed at the suggestion of the Council of the American Sociological Society, met to discuss some of the organizational problems involved in the relationship between the two organizations. The Secretary of the American Sociological Society and I sat in on the discussion. It was found that several layers of issues were involved. The simpler ones of local arrangements and of program received tentative solutions. But the deeper issues of constitutional problems and organization were felt to be too large and complex for complete consideration at this time. It was proposed however that as President of the Society for the Study of Social Problems I request you to appoint a committee of the American Sociological Society

to work with a similar committee appointed by the Society for the Study of Social Problems to begin working toward a solution of the problems connected with the affiliation of the Society for the Study of Social Problems with the American Sociological Society. Acting on this suggestion may I therefore request that such a committee be appointed at this time so that work may be begun as soon as possible."

(Note that action on this was taken at the first meeting of the 1953 Council as reported above.)

The composition of the 1953 Committee on Nominations and Elections as appointed by President-Elect Stouffer was announced as follows:

Ernest W. Burgess, Chairman  
J. Howell Atwood  
Howard W. Beers  
Jessie Bernard  
Guy B. Johnson  
Forrest E. LaViolette  
Alfred McClung Lee  
Calvin F. Schmid  
William H. Sewell  
Conrad Taeuber  
Dorothy Swaine Thomas  
Preston Valien  
Malcolm M. Willey  
Robin M. Williams, Jr.  
Kimball Young

The meeting was declared adjourned at 12 noon.

The *second Business Meeting of the Society* was called to order at 11:00 a.m. on September 5, 1952, by President Thomas.

The Minutes of the first Business Meeting and of the third meeting of the Council as reported by the Secretary were accepted.

After debate the three amendments to the By-laws pertaining to dues, Assistant Editors, and parliamentary procedure for business meetings were unanimously adopted.

Reports from the chairmen of committees on Membership, Publications, Contributed Papers, Liaison with the National Council for the Social Studies were read and accepted. (These are published elsewhere in these Proceedings.)

A report was received from George Haganir, Chairman of the Committee on Local Arrangements who announced a registration of 720.

Donald Young, on behalf of the Resolutions Committee, proposed the following items which were unanimously adopted:

Be it resolved that the appreciation of the officers and members of the American Sociological Society be conveyed to George H. Haganir, Marvin Bressler, Ralph England, Oscar Glantz, William Kephart, Michael Lalli, and S. L. Ricards for their

most effective service as members of the Committee on Local Arrangements.

Be it resolved that appreciation be expressed to the management and the employees of the Hotel Ambassador for the facilities and services provided for this conference.

The announcement of the Edward L. Bernays Award to Gladys and Kurt Lang for their paper, "The Unique Perspective of Television and Its Effects," was received with applause.

A suggestion made by Ellsworth Faris pertaining to the publication of doctor's theses and monographs was gratefully received and referred to the Publications Committee.

Announcement was made of various committees for 1953 as reported in the Minutes of the first meeting of the 1953 Council.

The next meeting of the International Sociological Association to be held in Liege, Belgium, August 24-September 1, 1953 was announced with the suggestion that all interested in participating get in touch with Robert Angell, Chairman of the Committee on Relations with Sociologists in Other Countries.

The meeting was declared adjourned at 12 noon.

Respectfully submitted,  
JOHN W. RILEY, JR.  
Secretary

## REPORT OF THE SECRETARY

(Covering the period August 15, 1951-August 14, 1952)

In line with the procedure established by the new Constitution, the affairs of the Society, subsequent to its Annual Meeting of 1951, insofar as they involved major policy and financial decisions, have been conducted by the Executive Committee and the Council, and in the case of the elections and one advisory poll, through mail ballot to the membership. These actions, for the record, are reported herewith:

1. The report of the Committee on Nominations and Elections is published in full in the *August Review*, but the outcome of the balloting is set forth herewith for the Secretary's record:

President-Elect: Florian Znaniecki  
First Vice-President: Herbert Blumer  
Second Vice-President: Jessie Bernard  
Committee on Publications: August B. Hollingshead

Council: Philip M. Hauser, Guy B. Johnson, Calvin F. Schmid, Kimball Young

2. The advisory poll of the membership, on annual meeting preferences, was conducted in the spring and will be incorporated in the report of the Executive Officer.

3. In addition, the following interim actions have been taken by the Executive Committee and Council:

*New Journals Added to Special Subscription List.* Upon the recommendation of the Committee on Publications, the *British Journal of Sociology* and the *Public Opinion Quarterly* have been added to the list of those available to members at reduced rates.

*The ACLS Roster of Specialized Personnel.* In line with the Society's previous action in favor of cooperating with this enterprise, the Executive Committee reviewed the classification of sociological specialties proposed by a subcommittee and approved in principle. (The classification was subsequently used as submitted.)

*A New Plan for "Unscheduled" Annual Meeting Papers.* At its December meeting the Executive Committee discussed at considerable length the plan for enlarging the representation of contributed papers on the annual program. While the details are to be left to the committees on the program and on contributed papers, depending upon the number and quality of the papers received, it was decided to provide formal arrangements which would facilitate discussion of the various topics to be reported.

*The 1952 Budget.* A threatened increase in printing costs which occurred at the beginning of the fiscal year prompted the Executive Committee to take the following actions:

That no further Bulletins, beyond that on fellowships and scholarships, be contemplated for the present.

That the Editor be asked to hold the February and April issues of the *Review* to an average of 144 pages overall.

That the Executive Committee at a later session should consider the desirability of increasing the dues for 1953.

That pending approval of the 1952 budget the Society proceed on the basis of its 1951 fiscal policy.

*The Enlarged Format of the Review.* Starting with the February 1952 issue, the Executive Committee voted to increase the length of the *Review* page by one-half inch. This action was taken to save costs since the old format wasted paper. The extra one-half inch increases the lines per page by three lines over the present 51, and involves no cost save for composition.

*Directory of Members.* In view of the possibility of a joint publication with the International Sociological Association, and in view of the stringent financial situation, the Executive Committee voted in December not to publish a new Directory this year.

*Annual Meeting Plans.* In line with the results of the Advisory Poll of the membership, the Executive Committee in June voted to recommend to the 1953 Local Arrangements Committee that every effort be made to provide university facilities for the San Francisco meetings. It was also voted to recommend to the 1954 Local Arrangements Committee that effort be made to provide university facilities if possible in or near the District of Columbia. Washington had previously (at its

December meeting) been voted by the Council as the locus for the 1954 meeting on the assurance that no racial discrimination would be encountered in the hotels (if any) that might be involved. Montreal, the alternative location for 1954, was, despite the invitation to meet with the American Statistical Association, voted down in line with the preference expressed by the membership.

*The Bulletin on Financial Assistance Available to Graduate Students in Sociology.* In September, the Executive Committee voted to vest the editorial responsibility for this Bulletin in the Publications Committee. This was expertly accomplished under the direction of Jessie Bernard with the assistance of Miriam Alpert of the Executive Office.

*The Second Printing of the Index to the American Sociological Review.* The Executive Committee voted to authorize a second printing and also to store the type for the *Index* thus saving the cost of resetting if at some future date the *Index* is revised. The cost of storage is about \$72 a year, which represents a loss to the Society in case no revision is ever printed. Over against this, if a revision is printed in five years, the net saving at present rates would be over \$1,200.

*Proposed By-law Changes.* The Council in March, upon the recommendation of the Executive Committee, voted to recommend to the membership at the business meeting in Atlantic City:

(1) An amendment to increase the dues for Active and Associate members from \$8 to \$10 and for Student members from \$4 to \$5, to meet the rising costs of printing.

(2) An amendment to the effect that annual business meetings should be conducted according to Roberts' *Rules of Order*.

(3) An amendment to increase the number of Assistant Editors of the *American Sociological Review* from six to nine.

*Miscellaneous Committee Changes.* Robert Ford replaces Frederick Stephan on the Budget Committee. Harry Alpert becomes the Chairman of the Committee on Training and Professional Standards, replacing T. C. McCormick who retired due to illness. Rex Crawford takes the chairmanship of the Committee on Relations with Sociologists in Other Countries due to the death of its former chairman, Louis Wirth.

*New Assistant Editors of the Review.* In March, the Council, voting on a slate prepared by the Publications Committee and the present and retiring editor, elected Edward Suchman and Paul Hatt to the Editorial Board as Assistant Editors.

*Miscellaneous Actions.* During the course of the year, the Executive Committee and Council have also taken other actions which should be reported for the sake of a complete record:

(1) The Executive Committee empowered the President to protest the action of the AAAS in offering a "prize in sociology" without proper clearance through the Society. This matter has subsequently been cleared up since the prize was intended as one in social science and not sociology.

(2) In answer to a request for guidance from the Research Committee, it was voted that this Committee should proceed with arrangements for further reviews of research but without definite commitments as to publication.

(3) A resolution from an *ad hoc* group representing the session on Sociology and General Education held at Chicago was rejected on the ground that the Society cannot undertake a research program, but with the matter being referred to the Committee on Training and Professional Standards.

(4) In view of the expiration of the Secretary's term of office, both the Executive Committee and the Council have been polled for nominations for this office.

Additional details of the Society's activities, insofar as they relate to such organizations as the International Sociological Association, as well as the activities carried out by the established committees of the Society, will be reported in full by the appropriate representatives or committee chairmen and are not recorded here.

In respect to its affiliated societies, the Society has this year followed its policy of attempting to cooperate in all possible ways to the end of heightening sociological interest and activities. Wherever possible the details of the various regional meetings have been called to the attention of the membership, and in other ways the Society has continued to work toward closer relations with its affiliates.

In connection with one organized sociological activity, however, the Secretary feels under obligation to make a recommendation. Since one of the constitutional objectives of the Society is "to encourage cooperative relations among persons engaged in the scientific study of society," and since the plans and arrangements for the concurrent sessions of the recently formed Society for the Study of Social Problems have already created some confusion and ambiguity with respect both to competing sessions and duplication of local facilities, he recommends that an *ad hoc* committee be set up to study the entire question of special sociological interests, their organization, and relationship to the Society.

Although data having to do with the composition of the Society's membership will be incorporated in the reports of the Executive Officer and the Membership Committee, it is at this point in the Secretary's report his sad obligation to record the loss through death of the following members:

Louis Wirth  
John Phelan  
Joseph Chamberlain

While letters of sympathy on the part of the Society to their families constitute but a formal recognition of the Society's loss, such letters have, in all cases which have come to our attention, been dispatched.

Finally, the appreciation of the Society is due the following members who represented it at various inaugural ceremonies:

Hugh Dobson at the installation of Sherwood Lett as Chancellor of the University of British Columbia

Paul Massing at the inauguration of Lewis Webster Jones as President of Rutgers University

C. G. Swanson at the inauguration of Ralph Waldo McDonald as President of Bowling Green University

Robert C. Angell at the inauguration of Harland Hatcher, President of the University of Michigan

James W. Wiggins at the inauguration of President Alston of Agnes Scott College

Ariel Ballif at the inauguration of Ernest LeRoy Wilkinson as President of Brigham Young University

Albert J. Reiss, Jr., at the inauguration of Lawrence Kimpton as Chancellor of the University of Chicago

Myra B. Low at the inauguration of Clyde Henry Canfield of Tarkio College

Irving E. Mitchell at the inauguration of A. Blair Knapp as President of Denison University

Roy D. Miller at the installation of deans and professors of Bonebrake Theological Seminary and the laying of the cornerstone of the Library Building

Your Secretary, in sum, continued during the year to serve as the Society's minor diplomatic official. All major problems, he wishes to assure you again, have been referred to, or brought up for policy decision by the appropriate committee.

Respectfully submitted,  
JOHN W. RILEY, JR.  
Secretary

## REPORT OF THE EXECUTIVE OFFICER

(August 1952)

For the Society, as for the academic world in general, this has been a difficult year. Expenses have sky-rocketed. Income, paralleling the income of individual members, has failed to meet expected increases.

Publication costs constitute the Society's largest expense. Out of a budgeted total expenditure of \$45,000 for the current year, about

two-thirds go to support the *Review* and other miscellaneous publications. Thus an increase at the beginning of the year of 20% in printing costs came as a serious blow. Manufacturing economies in the *Review* (such as the lengthening of the page and elimination of special obituaries) could only slightly offset such increases: the many savings introduced throughout the history of this publication had already approached maximum economy.

Over against these mounting costs must be placed the increasing difficulty of many academicians in supporting their professional organization. As of August 1 a year ago, 525 members were delinquent in paying their dues. This year, there were 761 members. This means an important loss of income to the Society, a loss which threatens continued ability to finance its publications and to maintain its other services at the present rate.

Accessions of new members have in part offset such renewal failures. Here, too, however, the progress has fallen below that of the past two years. As indicated in the report of the Membership Committee, the new member additions for the first 8 months of the year were 1,013 in 1950, 818 last year, and 549 in the current year. Thus, when we consider the membership as a whole, the steady expansion which took place during the years 1950 and 1951 appears now to have leveled off. On August 1, a year ago, we had 3,875 members; on the same date this year, we have 3,960. In both years, by class of membership, the division is approximately 1,700 Active, 800-900 Associate, and 1,400 Student.

A good deal of effort has been expended to increase the circulation of the *Review* among libraries and other non-members. Such efforts have yielded small, but sustained increases in income. One thousand five hundred forty-eight non-member subscribers at the end of the first 8 months of 1951 have gone up to 1,637 in the present year.

In spite of these fiscal difficulties, the Society has attempted to maintain a high level of operation during the year. The number of pages published in the *Review* has been held to over 144 per issue to take care of the growing pressure of acceptable manuscripts, as reported by the Editor. The enlarged Executive Committee has held two interim meetings. The Publications Committee has issued the detailed and well-received special Bulletin on *Financial Assistance Available for Graduate Study in Sociology*. Two additional journals, *The British Journal of Sociology* and the *Public Opinion Quarterly* have been made available to members at special rates. A second printing of 500 copies of the *Index to the Review* has been undertaken (360 of

which have already been sold); and the type has been preserved for future revision of this important work. The Employment Bulletin has been issued periodically, and the use of it continues to expand. Listings of vacancies were at first difficult to obtain and are, in one sense, an index of the value of such a service. In the first 8 months of last year, 6 vacancies were listed per issue; this year, this average has gone up to 10. Some 1,700 responses to the Employment Bulletin have been forwarded during the past year, and correspondence indicates that a large number of placements have been made. The Employment Bulletin, now numbering 24 issues, goes regularly not only to members, but also to a selected mailing list of about 500 potential employers in key academic, government, and industrial posts.

At the instruction of the Council and the Executive Committee, an advisory poll of the membership was conducted during April. Out of 4,476 members, 1,359 (30%) replied. The chief opinions expressed were:

(1) In regard to time of the annual meeting, early September is clearly preferred.

(2) There is a preference for university housing as compared with urban hotel arrangements.

(3) There is some preference, though not marked, for Washington, D. C., rather than Montreal as the site of the 1954 meeting.

Outstanding among the suggestions for improvement of annual meetings volunteered by respondents were:

That opportunities be provided for wider program participation and for informal relationships among members;

That greater effort should be made to reduce the cost of meetings to the members.

The Society's problem in maintaining such developing activities in the ensuing years is largely a fiscal one. The efforts of the immediate past have been to broaden the Society's income base, thus enabling it to support from current income its major professional services. Yet, the current year, contrary to such expectations, promises to run into a deficit of almost \$2,000. The \$10,000 grant from the Carnegie Corporation, allocated for expenditure during 1950, 1951, and 1952, will be exhausted by the end of this fiscal year. Although reserves amount to nearly \$20,000, they must be held to meet emergencies. Unfortunately, therefore, additional sources of income must be found unless activities are to be reduced to a drastic minimum.

Respectfully submitted,

MATILDA WHITE RILEY  
Executive Officer

## REPORT OF THE EDITOR

The present editor was appointed in late September, 1951. All papers from the annual meeting of 1951 except the presidential address and papers submitted in advance to the previous editor, were turned over to the new editor, and all manuscripts received after that time in New Haven were forwarded. The first issue for which the present editor was responsible was the issue of February, 1952.

No major problems have arisen during the past year. Each issue has come out on time, and the quality of the articles and book reviews appears to have been satisfactory—judging from the lack of complaints reaching the editor.

Because of a sharp increase in printing costs it has been difficult to stay within estimated costs. Some issues have exceeded the allowance because of the inexperience of the editor who did not realize the amount of extra charges for tabular and mathematical printing. In recent months some devices for economy have made it possible to print some of this type of material less expensively, though also less attractively. The tight pinch of costs does, however, hamper editorial operations, and if the increase in dues is voted and a larger budget is possible, it will not be necessary to cut down so hard on the expensive types of material—much of which are valuable.

The flow of manuscripts increases in volume year by year, and to provide careful and fair reading of these the editor has asked that the number of assistant editors be increased from six to nine. The number of available readers is usually less than the persons listed, since some are generally unavailable because of travel, illness, or exceptional burdens of other responsibilities. Overloading the assistant editors generally results in long delays in the reading, with justifiable discontent on the part of the authors.

There has been no intentional change in policy during the past year. The assistant editors tend to favor articles embodying the results of objective research, and usually ask for justification of a paper being in a *sociological* publication in cases of borderline subject matter.

The Book Review section has been ably and tactfully handled by S. Frank Miyamoto and no great expressions of dissatisfaction have reached us. In one or two cases important books have been delayed because of circumstances out of his control, but even these authors have been patient.

The flow of manuscripts in recent months is compared below with the same information for the previous year:

## MANUSCRIPTS RECEIVED

	This Year	Previous Year
October	49	33
November	27	18
December	10	14
January	25	19
February	19	21
March	18	13
April	26	26
May	27	16
Totals	201	160

For the year beginning June 1, 1951 and ending May 31, 1952 there were submitted 224 articles, of which 78 were accepted and 146 rejected. Of the 78 accepted, 29 were returned to the authors for revision before publication. As the number of manuscripts received increases, the proportion rejected will inevitably increase. If it becomes apparent that too many valuable articles fail to reach print, we may eventually find it desirable to increase the number of pages, but for the present this does not appear to be a pressing matter.

Respectfully submitted,  
ROBERT E. L. FARIS  
Editor

## REPORT OF THE MEMBERSHIP COMMITTEE

The lucid report of the Executive Officer of the Society provides a sharp perspective for the Membership Committee's activities during the past year and for its task in the year ahead. Inflation of costs combined with the failure of the profession as a whole to share proportionately in an increase of income works in a vicious circle in its effect upon the growth of the Society.

## THE RECORD

During the past year the Society has continued its growth. As of August 20th, the total membership stood at 4,008, having passed the four thousand mark for the first time in an official report. One year ago, in August 1951, the membership of the Society numbered 3,906. There has therefore been a net gain of 102.

Thus the rate of expansion reported in 1950 and in 1951 has not been maintained, although the Society has grown about three per cent during the past year. An examination of accessions tells the story. In 1951, 818 members were added to our rolls during the first eight months, of which 18%, or 147, were in the active category; 29%, or 237, in the associate

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classification, and 53%, or 434, were student memberships. During the first eight months of the current year, 582 new members were added. This is approximately 71% of the 1951 figure. But during the current year, only 8½% of the accessions were active memberships, while 24½% were associate, and 67% were student members. That is, not only did active membership additions drop from 147 to 50, associate from 237 to 142 and students from 434 to 390, but the proportions of actives dropped from 18% to 8½%, associate from 29% to 24½%, while student memberships increased from 53% to 67%. Student memberships sharply increased in proportion, associate nearly held its own, and active membership accessions sharply decreased.

## MEMBERSHIP ACCESSIONS—JAN.—AUG.

	1951		1952	
Active	147	18%	50	8½%
Associate	237	29%	142	24½%
Student	434	53%	390	67%

This picture of the state of the membership is further highlighted by one additional and important fact—that in the first eight months of the current year, more members failed to renew membership. Last year, with a total of 3,906, there were 525 persons who up to August 1st had failed to pay their dues. This year, with a total of 4,008, there were 744, or 42% more, who on the same date had failed to renew. Of these non-renewals 184, or 25%, were active; 205, or 27%, were associate, and 355, or 48%, were student members. Thus the active category, which constitutes 42% of the total membership, received only 8½% of the new memberships but provided a fourth of all the non-renewals. The associate classification makes up 23% of the total roster, and provided 24½% of the new memberships this year and 23% of the non-renewals. The student memberships, which compose 35% of the Society, provided 67% of the new accessions while non-renewals were only 48%. A large turnover is, of course, to be expected in the student classification; the associate just about held its own; but non-renewals in the active category are serious. Accessions and renewal failures of actives constitute the weakest point in the present membership picture.

As a matter of incidental interest to members of the Society, your Committee has called attention to the relative rates of growth in the three membership categories as an indication of the degree to which the Society was reaching out into the area of non-academic affiliation. This highly desirable trend is indicated in the

following figures which show that the associate category increase, while not spectacular, is important. On January 1st, 1951, 46% of the membership fell in the active category, 19% in the associate, and 35% in the student classification. As of August, 1952, the active category had decreased to 42%, the associate increased to 23%, and the student memberships remained at 35%. Thus, in the past year and a half, while the Society has increased in numbers, the associate category has grown by four percentage points; the student contingent has remained in the same proportion.

## MEMBERSHIP DISTRIBUTION BY CLASSIFICATION

	January 1951		August 1952	
	No.	%	No.	%
Active	1,649	46	1,695	42
Associate	681	19	907	23
Student	1,292	35	1,406	35
Total	3,652	100	4,008	100

## OPERATIONS

The work of the Membership Committee during the past year has been subject to at least two limiting conditions. First, it was not expected that the rapid rate of increase in members during the post-war period could be maintained indefinitely. In the first eight months of 1950, 1,013 members were added; in 1951, the same span of time yielded 818; the current year's eight-month showing was 582. This last figure represents a solid and substantial increase, but its impact is diminished by a second condition. The relative shrinkage of academic incomes has apparently resulted in not only a failure of an increased number of members to renew membership. It has also made it more difficult to secure new memberships from academically affiliated persons. Moreover, contracting enrollments, both in graduate schools and in undergraduate departments, have cut down the number of new faculty members eligible for membership, as well as prospective student members. This second condition is, in the opinion of competent observers, a temporary situation.

In any event, the activities of your Committee, in cooperation with the highly effective team of the national office, have been maintained. Periodic contact by letter with the 225 members and representatives of the Membership Committee has resulted in a wide cultivation of day-to-day membership promotion work. More than a hundred different participants have sent in new memberships, in addition to nurturing renewals. Many of us secure new student additions by direct invitation, but sev-

enteen persons cooperated by sending in lists of students to be invited to membership by a letter from the National Office. At each of the regional society meetings membership facilities were provided. Lists of registrants at the regional meetings yielded applications for membership from more than ten per cent. During the year the National Office sent out twelve different mailings to selected prospects, totalling 1,863 letters, from which applications for membership of more than ten per cent—a good level of return—were received and approved. Individual members of the Committee demonstrated their interest as well as their inventiveness in bringing membership advantages to the attention of prospective applicants. Stanley Chapman, at the University of Bridgeport, for example, continued his practice of awarding memberships as prizes to outstanding sociology students.

#### THE PROSPECT

The report of the Executive Officer of the Society makes clear that a high rate of renewals and a continuing substantial expansion of membership is the condition of maintaining the services and functions of the Society. It is the judgment of your Committee that such a substantial steady growth may be continued in all categories, but especially in the expanding area of associate memberships and in an even more extensive cultivation of student members than has been achieved to date. Here it is certainly not out of place to remind all members of the Society again that the job of maintaining a strong professional organization is a common responsibility.

The chairman wishes to thank the many members and representatives of the Committee who have given so much helpful cooperation and to the staff of the National Office, whose team-work leaves nothing to be desired.

Respectfully submitted,

WELLMAN J. WARNER  
Chairman

#### REPORT OF THE PUBLICATIONS COMMITTEE

The Publications Committee of the American Sociological Society begs leave to present the following report of its activities during the year 1951-1952.

1. It submitted a list of candidates for the office of editor of the *American Sociological Review* to replace Maurice Davie, who had submitted his resignation.

2. It proposed a slate of Assistant Editors for the *American Sociological Review*, to be elected by the Council.

3. It added two new journals to the list of sociological journals offered to members of the American Sociology Society at special rates, viz.: (1) *The British Journal of Sociology* and (2) *The Public Opinion Quarterly*.

4. With the cooperation of the Executive Office, it prepared a Special Bulletin on Financial Assistance Available for Graduate Study in Sociology.

5. With the aid of the Executive Office, it conducted a study to determine the feasibility of sponsoring a monographic series.

(1) Estimates were secured on publishing costs from several companies.

(2) A random sample of 23 doctoral dissertations appearing in the latest listing was taken and the members of the committee each read several, to determine their quality and probable appeal to the sociological public.

(3) None of these studies was felt to appeal to a wide enough public to pay for itself.

(4) The possibility was considered of publishing several in one volume, in order to reduce the cost per study; but this was considered unfeasible.

(5) In view of the financial position of the Society and the marked increases in publication costs, the matter was dropped with no recommendations to the Council for action.

Respectfully submitted,  
JESSIE BERNARD  
Chairman

#### REPORT OF THE COMMITTEE ON CONTRIBUTED PAPERS

The Committee on Contributed Papers had two major tasks:

1. To prepare a program for three regular sessions at each of which papers would be read by their authors; and

2. To prepare a program for two "special" sessions at which discussion of papers, based on mimeographed abstracts, would be facilitated.

The second task was undertaken at the request of President Thomas, and represents a new development in the annual meetings. Its degree of success is unknown at this writing.

Nearly 100 papers, or proposed papers, were submitted to the Committee, from which fifteen were selected to appear on the three regular sessions. The major criterion of selection was quality, but the Committee frankly preferred papers dealing with recent empirical research by younger, lesser-known members of the Society. The fifteen papers were arranged into three patterns: (1) Studies in Social Organization and Change; (2) Studies in Interpersonal and Intergroup Relations; and (3) Studies in Methodology. Each pattern was assigned to one session, and each member of the Committee agreed to act as Chairman for one Session.

From the remaining papers, approximately 35 were selected to appear on the "special" sessions, and most of the authors accepted the

invitation. Abstracts of these papers were mimeographed by the Executive Office and will be available to those interested. Read Bain has consented to act as "discussion leader" for one of these sessions; the second has not yet been named.

The Chairman wishes to acknowledge publicly his great debt to his two colleagues on the Committee. They were extremely generous with time, effort, and advice. The Committee as a whole also expresses its great appreciation to President Thomas, Mrs. Riley, and the Executive Office for their whole-hearted cooperation.

Respectfully submitted,  
EDMUND H. VOLKART  
Chairman

### REPORT OF THE COMMITTEE FOR LIAISON WITH THE NATIONAL COUNCIL FOR THE SOCIAL STUDIES

During 1952 the Society's Committee for Liaison with the National Council for the Social Studies carried on considerable correspondence with respect to the best ways to carry out its assignment. Also numerous contacts were made with Julian C. Aldrich, president of the National Council for the Social Studies, and John Haefner, vice-president and program chairman for the National Council for the Social Studies.

After this consultation the committee prepared by correspondence, a program to be held at the American Sociological Society's meeting in Atlantic City, September 4, 1952, and another to be given at the annual meeting of the National Council for the Social Studies at Dallas, Texas, November 28, 1952, as follows:

#### MEETING NO. ONE (With the American Sociological Society)

Atlantic City, Ambassador Hotel, September 4, 9:00 a.m.

Chairman: Leslie D. Zeleny, Colorado State College of Education, Greeley, Colorado.

1. Paper: "The Social Studies Teachers and the Sociologist." Julian C. Aldrich, President, National Council for the Social Studies.

2. Discussion of the paper by Dr. Aldrich, with special reference to means of continued liaison between these two societies.

3. Paper: "The Reality Centered School." Nathaniel Cantor, Columbia University.

#### MEETING NO. TWO (With the National Council for the Social Studies)

Dallas, Texas, November 28, 1952

Sociology Luncheon, Friday Noon, November 28, 1952

Chairman: Leslie D. Zeleny, Colorado State College of Education, Greeley, Colorado

Paper: "Teaching for Insight: A Sociologist's View." Claude C. Bowman, Temple University, Philadelphia, Pennsylvania.

Anthropology Luncheon, Friday noon, November 28, 1952

Chairman: Prof. Walter T. Watson, Southern Methodist University, Dallas, Texas.

Paper: "The Contribution of Anthropology to the Social Studies." Dr. J. Gilbert McAllister, University of Texas, Austin, Texas.

It is believed that these foregoing programs are a step in the direction of good liaison between the two organizations.

Suggestions for future consideration in liaison matters have been as follows: methodology, values, juvenile delinquency, special problems of the high school teacher of the social studies, neglected areas in social studies instruction, evaluating the end products of social education, education for leadership, the future of the social studies, an articulated social studies curriculum, social change and the implications for education.

It was also suggested that certain significant reports of interest to members of both societies be printed in the *American Sociological Review* and *Social Education*, and that other special reports be published in special monographs. It was recommended that the *Review* mention articles that might be of importance to secondary school teachers and that *Social Education* indicate articles in sociology and anthropology magazines which might be of value to social studies teachers.

What is needed most, no doubt, are numerous joint sessions of committee members of both societies at which common problems may be identified for special study.

Respectfully submitted,

JOSEPH B. GITTLER  
HARRINGTON C. BREARLEY  
FRANCIS J. BROWN  
NATHANIEL CANTOR  
EMILY C. HOLLOWAY  
C. G. SWANSON  
LESLIE D. ZELENY,  
Chairman

### REPORT OF THE COMMITTEE ON RESEARCH

The Annual Census of Research yielded 763 reports on projects in progress. In replying to the Census, members were requested to classify their projects by fields of sociology, indicating for each project a first and second choice among the twenty-one categories listed on an instruction sheet. These twenty-one categories were those used in taking the 1949

Census when members were last asked to classify their own projects.

Table 1 shows the number of projects reported by fields, the fields being listed in order of frequency of individual reports. The "other" category provided on the instruction sheet yielded sufficient numbers of reports classified by members as in the fields of communications and medical sociology to make adding these categories advisable in Table 1. Most of the remaining projects in the "other" category were classified by members as in the fields of alco-

TABLE 1. NUMBER OF RESEARCH CENSUS REPORTS RECEIVED FROM INDIVIDUALS AND ORGANIZATIONS ACCORDING TO FIELDS OF SOCIOLOGY: 1952

Fields	Individuals	Organizations	Total
Social Psychology	69	4	73
Industrial and Occupational Sociology	61	4	65
Marriage and the Family	46	1	47
Population	44	10	54
Community	40	6	46
Social Organization	39	4	43
Cultural Sociology and Anthropology	36	2	38
Race and Ethnic Relations	33	1	34
Criminology	29	0	29
Urban Sociology	29	7	36
Social Change	23	1	24
Educational Sociology	22	2	24
Public Opinion	22	7	29
Social Theory and History of Ideas	20	0	20
Political Sociology	18	2	20
Methods of Research	16	14	30
Rural Sociology	16	13	29
Social Pathology	16	1	17
Sociology of Religion	13	8	21
Social Welfare	12	0	12
Communications	12	4	16
Medical Sociology	9	0	9
Other	30	17	47
Total	655	108	763

holism, aging and retirement, small group interaction, social psychiatry, and social stratification. If these categories are added to the instruction sheet, when the 1953 Census is taken, the number of members using the "other" category should be reduced greatly.

Table 2, comparing the frequency of projects reported by fields in 1949 and 1952, indicates that the research interests of members have changed substantially. The largest increase shown is in the field of social organization; the major decrease is in social psychology. Notable, too, is the sharp increase in the number of projects classified by members as in the field of cultural sociology and anthropology. The re-

duced number of projects in the field of social theory may be the result of a change in the name of the category on the instruction sheet, from "history and theory" in 1949 to "social theory and history of ideas" in 1952. A marked decline occurred also in the number of projects reported in the field of marriage and the family. The large number of projects in the "other" category in 1952 apparently reflects an increased interest in social problems, as does the increased number in the category of social pathology.

TABLE 2. NUMBER OF CENSUS REPORTS BY FIELDS COMPARED FOR 1949 AND 1952

Fields of Sociology	Number		Rank	
	1949	1952	1949	1952
Social Psychology	116	73	1	1
Marriage and the Family	77	47	2	4
History and Theory	64	20	3	17.5
Industrial and Occupational Sociology	56	65	4	2
Community	46	46	5	5
Population	45	54	6	3
Criminology and Juvenile Delinquency	38	29	7	12
Public Opinion	36	29	8.5	12
Race and Ethnic Relations	36	34	8.5	9
Social Change	34	24	10.5	14.5
Urban Sociology and Ecology	34	36	10.5	8
Rural Sociology	32	29	12	12
Methods of Research	31	30	13	10
Educational Sociology	27	24	14.5	14.5
Sociology of Religion	27	21	14.5	16
Political Sociology	24	20	16	17.5
Social Welfare	14	12	17	20
Cultural Sociology and Anthropology	12	38	18	7
Social Organization	10	43	19	6
Social Pathology	7	17	20	19
Other	13	72	..	..
Total	779	763		

Notice was sent by the President of the Society to each of the Program Chairmen for the 1952 Annual Meetings that the Census Reports relating to a particular field could be obtained upon request to this Committee. Although a majority utilized the Census in planning their programs, several did not do so. Use, also, was made of the Census Reports in the preparation of a series of reviews of research in progress by fields which are being published in *The American Sociological Review*. These reviews have been substituted for the earlier lists of census projects by author, title, and field in the same publication. Comments from some of the members indicate that mimeographed lists of projects by fields should be

prepared and mailed to members reporting on their projects. The Committee recommends that such mimeographed lists be prepared for the 1952 Census Reports, if space cannot be spared in *The American Sociological Review* for the lists as well as for the reviews.

Respectfully submitted,  
J. WILLIAM ALBIG  
DELBERT C. MILLER  
DANIEL PRICE  
ANSELM STRAUSS  
FRED STRODTBECK  
RAYMOND F. SLETO,  
Chairman

### REPORT OF COMMITTEE ON TRAINING AND PROFESSIONAL STANDARDS

This is the first year of operation of the Committee on Training and Professional Standards as a standing committee of the Society devoted to the review of professional standards. The By-laws of the Society instruct this Committee to study current standards for professional training and research and from time to time to submit its findings to the Council with recommendations. In recommending that a standing committee on training and professional standards be established, the 1950 Reorganization Committee of the Society proposed that this be "an active committee in the sense that it will continuously investigate and consider the question of standards for the profession as a whole" and that the Committee "should begin by studying current standards of professional training and research, with a view to the later development of recommended minimal standards" (*American Sociological Review*, Aug. 1950, p. 562).

At the First Meeting of the 1952 Council of the Society held on September 7, 1951, the following were elected to the Committee on Training and Professional Standards:

T. C. McCormick, Chairman  
Calvin Schmid  
Oswald Hall  
Paul Wallin  
Harry Alpert

Under the able, energetic and imaginative direction of its chairman, Professor McCormick, the Committee undertook a series of inquiries designed to shed light on standards and practices affecting the professional training of sociologists. Unfortunately, Professor McCormick was forced to undergo an eye operation and asked to be relieved of the chairmanship. In May, 1952, President Dorothy Thomas ap-

pointed Harry Alpert as chairman of the Committee for the balance of the year.

On behalf of the Committee, I should like to express our appreciation for the zeal, energy, and excellent leadership provided by Professor McCormick in guiding the Committee's activities into fruitful channels. The Committee is also extremely grateful for the fine secretarial services provided by Mrs. Z. Voegely of the University of Wisconsin.

The Committee does not have any specific recommendations to submit to the Council at this time. It wishes to report, however, that, for the purpose of initiating a compilation of information which may later be organized into a more or less comprehensive report to the Council by the successors to the present Committee, it has filed with the Executive Officer of the Society the following materials:

1. Letter, dated January 7, 1952, sent to 31 sociologists inviting comments on the major shortcomings which now seem to exist in the training of professional sociologists at the Ph.D. degree level, together with considered suggestions for improvements.

2. Replies to the above mentioned letter from 23 sociologists: Albig, J. W., University of Illinois; Angell, R. C., University of Michigan; Becker, H., University of Wisconsin; Chapin, F. S., University of Minnesota; Christensen, H. T., Purdue University; Clark, C. D., University of Kansas; Davie, M. R., Yale University; Davis, K., Columbia University; Hatt, P., Northwestern University; Hollingshead, A. B., Yale University; LaPiere, R. T., Stanford University; LaViolette, F. E., Tulane University; Loomis, C. P., Michigan State College; Lundberg, G. A., University of Washington; Parsons, T., Harvard University; Queen, S. A., Washington University; Rosenquist, C. M., University of Texas; Sanders, H. W., State University of Iowa; Sellin, T., University of Pennsylvania; Sletto, R. F., Ohio State University; Vance, R. B., University of North Carolina; Williams, R. M., Jr., Cornell University; Wirth, L., University of Chicago.

3. Proposed questionnaire on Ph.D. requirements in selected graduate schools (with comments on questionnaire by Committee members).

4. Proposed questionnaire seeking a cross-section of opinion from teachers of sociology throughout the country, on what, if anything, needs to be done to improve training of graduate students of sociology at the Ph.D. degree level.

5. Pertinent documents and materials:

a. Cottrell, L. S., Jr., Training for Research in Social Behavior: Suggestions for Discussion (mimeographed).

b. Hauser, P. M., Training the Social Scientist for Research (ms.).

c. Hudson, G. D., Professional Training of the Membership of the Association of American Geographers (reprinted from *Annals of the Association of American Geographers*, June, 1951).

d. Odum, H. W., The Ph.D. Degree and the Doctor's Dissertation in Sociology and Anthro-

pology at North Carolina: A Work Memorandum (ms.).

e. Parsons, T., Graduate Training in Social Relations at Harvard (reprinted from *Journal of General Education*, January, 1951).

f. Sibley, E., Education in Social Science and the Selection of Students for Training as Professional Social Scientists, *Items* (SSRC), September, 1951.

g. Proposed to Establish an Institute for Training in Social Science: A Memorandum Submitted by the Department of Sociology of Columbia University (mimeographed).

6. Miscellaneous Committee correspondence.

Respectfully submitted,

HARRY ALPERT

Chairman

### REPORT OF THE REPRESENTATIVE TO THE DEWEY DECIMAL CLASSIFICATION SYSTEM

The Dewey Decimal System has been relatively inactive during the last year in the field of sociology, and the activities of the Society's representative have been confined to an offer of consultative service whenever it is needed.

Respectfully submitted,

MAPHEUS SMITH

### REPORT OF THE REPRESENTATIVE TO THE AMERICAN DOCUMENT- TATION INSTITUTE

After vigorous discussion, the members of the Institute have voted to admit individuals as dues-paying members, the organization having previously been constituted exclusively by representatives of other bodies. There are at present said to be about 300 members, most of them professional librarians; but the number of "information officers" and other non-librarians is said to be increasing.

In the opinion of a prominent librarian, who has been active in the affairs of the Institute, the one essential purpose it may serve is that of providing a common meeting place for librarians and non-librarians who are concerned with problems of documentation. If only librarians are to participate, it would appear that the business might as well be transacted through the librarians' own organization or organizations.

A meeting of the Institute to take action on a new draft constitution is scheduled for September 26th and, in the opinion of some observers, it may be better possible to judge at that time whether or not there is an important need for continuation of the Institute.

Respectfully submitted,

ELBRIDGE SIBLEY

### REPORT OF THE REPRESENTATIVE TO THE AMERICAN PRISON ASSOCIATION

I. The focal point of the activities of the American Prison Association is the annual congress, which took place last year in Biloxi, Miss., on October 21-26 and was attended by this representative. The program is made up of contributions not only of the American Prison Association, but of a whole group of affiliated organizations, such as the National Probation and Parole Association, Medical Correctional Association, National Conference of Juvenile Agencies, Correctional Service Associates, etc. Thus it represents the major yearly event in the correctional field in this country. The participation of the American Sociological Society through its representative was duly recognized.

A detailed analysis of the sessions of the congress is not intended in this purposely brief report. However, the following major items should perhaps be brought out:

a. The Congress manifested a clear-cut further step in the direction of genuine research interests of the groups involved and a willingness to resort to the services of professional social scientists. There has been a definite trend in this direction for the last 15 years, but it could safely be said that at no time in the past so many papers were given by competent researchers and professional correctional workers, many of whom now hold advanced academic degrees, and so many sessions were devoted to an open-minded search for better methods of treatment.

b. It is further significant in this connection that the Congress as a whole saw fit to pass a resolution proposed by the Research and Planning Committee, regarding the research needs of the Association.

c. Several members of the American Sociological Society participated in the program of the Congress by giving papers or as discussants.

d. It is quite obvious that this Congress has by now become a very important meeting place of the practitioners in the field and the social scientists whose interests lie in that direction. The attitude of the practitioners is quite receptive at the present time toward experimentation, testing and research, and it is the responsibility of the respective social scientists to utilize this situation and make their contribution, which is now being welcomed more than ever before.

II. This representative also participated in the Midwinter Meeting of the Board of Directors of the American Prison Association in his capacity of Chairman of the Research and Planning Committee of that Association. The above-noted trends persisted in the preparation of the plans for the 1952 Congress.

III. sociology, standing, elopment, tices in country. It seen of orga interest portanc proper of this recent organiz in this Sociolo thought of a pe

III. The general observation is in order that sociological criminology, which has made outstanding contributions in the past to the development of the correctional attitude and practices in crime and delinquency control in this country should continue to do so in the future. It seems that at the present time some kind of organizational structuring of the sociologists interested in criminology is of considerable importance in many respects in order to insure proper professional leadership and development of this branch of sociological study. Since the recent efforts of some of the criminologists to organize an independent criminological society in this country did not materialize, the American Sociological Society might well give some thought to this, perhaps by reviving the idea of a permanent section within the Society.

Respectfully submitted,  
PETER LEJINS

### REPORT OF THE COMMITTEE ON SOCIAL STATISTICS

The Committee on Social Statistics of the American Sociological Society has continued in an inactive status during the past year. We still stand ready to cooperate with a similar committee from the American Statistical Association or from other related societies, but to the best of our knowledge no action has been taken as yet by these organizations.

It seems to us that it would be desirable to try to find out what they plan to do before deciding on our own course of action. If there is a likelihood of positive steps during the coming year we think our committee should be continued, but if not, we doubt that it is worthwhile to continue it on paper.

Respectfully submitted,  
P. K. WHELPTON  
*Chairman*

## NEWS AND ANNOUNCEMENTS



**International Sociological Association.** The second World Congress of Sociology will be organized by the International Sociological Association under the auspices of UNESCO in the city of Liège, Belgium, from August 24–September 1, 1953.

Sociologists of all countries of the world, professors, research workers and students, are invited to take part in this Congress and are asked to enter into contact with the ISA Secretariat for registration and detailed information.

The Congress will be centered on the presentation and discussion of papers in two major fields: *Social Stratification and Social Mobility*, and *Intergroup Conflicts and Their Mediation*.

All papers and reports to be prepared for the Congress will be duplicated and distributed in advance and will be presented by general rapporteurs to be followed by prepared discussants for each section or sub-section.

The official working languages of the Congress will be English and French, but papers can also be submitted and presented in Spanish and German. There will be provision for interpretation between English and French, but for financial reasons it does not seem likely that interpretation can be provided for other languages than these.

The basic registration fee for participants will be \$3 or its equivalent in pounds sterling, Belgian francs, French francs or Norwegian kroner. This fee will cover admission to Congress meetings and participation in social arrangements and will ensure receipt of all papers and reports pertaining to at least one of the sections of the Congress. Participants wishing to obtain copies of papers and reports pertaining to sections other than the one to be covered by the basic fee, will be able to obtain these at the cost of \$2 or its equivalent for each section.

Local arrangements in Belgium will be taken care of by an Organization Committee to be set up by Professor René Clemens of the University of Liège. The Secretariat of this Committee will from September, 1952, onwards be able to provide any information required on local accommodation and other facilities. General information on Congress preparations, and particularly on registration of participants and presentation of papers for the Congress, will continue to be provided by the Secretariat of the International Sociological Association, Arbiensgate 4, Oslo.

**Institute of Social Studies, The Hague, Netherlands.** In October 1952 the newly established Institute of Social Studies opened its doors in The Hague. Plans for this Institute were started in 1950 when a Royal Commission was appointed

in the Netherlands to investigate the possibility of adapting university education in the Netherlands to international needs and developments. An immediate result was the recommendation to establish an internationally orientated Institute of graduate level.

It was considered that the contribution of Dutch Scholarship to the understanding of the history and problems of the eastern world and of international society should be enabled to continue and further develop. The need existing in many countries for scientific training as a preparation for administration and other social activities was another consideration leading to the establishment of the Institute.

The Institute has been brought into existence through the combined efforts of all the Universities of the Netherlands. Its Governing Body is composed of representatives of these Universities and its teaching staff is largely recruited from them, supplemented by visiting professors from other countries. Though subsidized by the Government, the Institute is an independent organization. The general object of this Institute is the advancement of knowledge in the social sciences with special emphasis on their comparative and international aspects; its particular purpose being to make a contribution towards the study of relations between East and West in modern times. It hopes to do so by research and by training of personnel. The activities of the Institute fall into two categories: (a) the training of men and women from the so-called underdeveloped countries; (b) the equipment of technical experts with knowledge they need in order to perform successfully their task in countries to which they are assigned. Courses will be given in the English language and will range from two years to six months. Students who desire to enroll are expected to have had previous training in at least one of the branches of social studies, economics, law or related subjects.

**Eastern Sociological Society.** Contributed research papers are invited for the 1953 meeting of the society, tentatively scheduled for April 18–19 or 25–26, 1953. Papers should report empirical findings of completed research or specific methodological developments. Because of program limitations, general theoretical analyses not based on specific research cannot be accepted.

Completed papers or substantial outlines must be received by January 10. These should be directed to Edward C. Devereux, Jr., Chairman, Committee on Contributed Research Papers, Department of Child Development and Family Relationships, Cornell University, Ithaca, New York.

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tions should be addressed to Vincent H. Whitney, Secretary-Treasurer, Brown University, Providence, Rhode Island.

### **Society for the Study of Social Problems.**

At its Atlantic City meetings, the Society placed its constitution and by laws officially in effect. The Society's official objects are: "... the promotion and protection, by means decided upon by its membership, of sociological research and teaching on significant problems of social life. The Society shall especially encourage the work of young sociologists. The Society shall stimulate the application of scientific method and theory to the study of vital social problems, encourage problem-centered social research, and foster cooperative relations among persons and organizations engaged in the application of scientific sociological findings to the formulation of social policies."

The Society may affiliate "with other professional, research, and educational bodies. It shall not affiliate itself with bodies related to political parties or commercial projects."

Officers elected for 1952-53 are: Ernest Watson Burgess, University of Chicago, President; Alfred McClung Lee, Brooklyn College, President Elect; Arnold M. Rose, University of Minnesota, Vice President; Byron L. Fox, Syracuse University, Secretary; and James B. McKee, Oberlin College, Treasurer.

Members of Executive Committee: Ray H. Abrams, University of Pennsylvania; Reinhard Bendix, University of California at Berkeley; Jessie Bernard, Pennsylvania State College; Stanley H. Chapman, University of Bridgeport; Hertha Kraus, Bryn Mawr College; Harry W. Roberts, Virginia State College; George Simpson, Brooklyn College; Florian Znaniecki, University of Illinois; and the Society's officers.

**The University of Chicago.** Three \$4000 post-doctoral fellowships in Statistics are offered for 1953-54 by the University of Chicago. The purpose of these fellowships, which are open to holders of the doctor's degree or its equivalent in research accomplishment, is to acquaint established research workers in the biological, physical, and social sciences with the crucial role of modern statistical analysis in the planning of experiments and other investigative programs, and in the analysis of empirical data. The development of the field of Statistics has been so rapid that most current research falls far short of attainable standards, and these fellowships (which represent the third year of a five-year program supported by The Rockefeller Foundation) are intended to help reduce the lag by giving statistical training to scientists whose primary interests are in substantive fields rather than in Statistics itself. The closing date for applications is February 1, 1953. Instructions for applying may be obtained from the Committee on Statistics, University of Chicago, Chicago 37.

**Fayetteville State Teachers College.** Dean Joseph H. Douglass has been granted a year's leave of absence to serve as a Lecturer at the Cairo

School of Social Work, Cairo, Egypt, under the Fulbright Program.

**Florida State University.** Howard C. Busching completed work on the doctorate at Columbia University. In addition to his teaching he directs the off-campus program of the University in Family Life Education.

Dean Johnson has returned to the University after a year of study at the Menninger Foundation where he was a Grant Fellow in the Marriage Counselling Program. He has been appointed Director of the Human Relations Institute and the Marriage Counselling Service.

John R. Crist has accepted the position of Professor of Marriage and Family Living and Director of the Counselling Services at Denison University, Granville, Ohio.

Lester S. Pearl has accepted a position as Head of The Department of Sociology at Drake University, Des Moines, Iowa. Gordon J. Aldridge goes to Michigan State College as an Associate Professor in the School of Social Work. Edwin R. Hartz who received his doctorate from Duke University during the summer has been recalled to active duty in the Navy.

Three associate professors joined the staff at the beginning of the Fall Semester. Edward A. Conover comes from Ohio State where he recently received the doctorate. Vernon Fox, who will teach courses in crime, delinquency, and corrections, has a doctorate from Michigan State and was formerly Deputy Warden at the Southern Michigan Penitentiary and Director of Penal Treatment in the State Department of Corrections. Ira H. Holland joins the staff after an extensive teaching career in social work at the University of Oklahoma and Far Eastern universities in China and Korea.

**Illinois State Normal University.** Benjamin Keeley has joined the Department of Social Science and is teaching The Family and Introduction to Sociology, as well as assisting with freshman orientation courses in the social sciences.

John Kinneman, head of the Department of Social Science and Professor of Sociology, is the Democratic candidate for Congress in the 17th District.

**Illinois Wesleyan University.** S. C. Ratcliffe, head of the Department of Sociology since 1927, has retired from active duty. He is succeeded by Donald Salzman, an alumnus, who has studied at the University of Chicago for the past three years.

**The University of Kansas.** Dr. Marston McCluggage has been promoted to Professor of Sociology and Human Relations.

Mrs. Louise Cochran has resigned and moved to Los Angeles, California, where she expects to engage in research and writing.

Melville Dalton has resigned his position of Assistant Professor of Human Relations and Sociology to accept a similar position in the Department of Sociology and Anthropology at Washington University, St. Louis, Missouri.

Carlyle S. Smith, Assistant Professor of Anthropology, conducted a field party during the summer, which completed archaeological excavation in the Ft. Randall area of South Dakota.

The Department of Sociology and Anthropology is collaborating with the Department of Human Relations, the Department of Social Work, the Department of Psychology, and Community Studies Inc., Kansas City, Missouri, in a study of factors affecting conditions of employment of minority group members in the Kansas City metropolitan area. This is the initial project in a long range program of research on inter-group relations under the direction of an advisory committee composed of representatives of the University Departments. The research is being carried out by a working committee under joint chairmanship of Hilden Gibson, head of the Department of Human Relations, and W. B. Bryant, Director of Community Studies, Inc.

**Louisiana State University.** Homer L. Hitt, head of the Departments of Sociology and Rural Sociology has been named acting dean of the Graduate School in the absence of Dean Richard J. Russell.

The Department of Social Science which heretofore has had the responsibility of teaching basic survey courses for freshmen has been merged with the Department of Sociology. L. B. Lucky and Frank Girlinghouse have been added to the Sociology faculty as Professor and Associate Professor respectively. Henceforth, the Social Science Survey course will be offered by the Department of Sociology.

Roland J. Pellegrin is a new addition to the Sociology faculty with the rank of Assistant Professor. Dr. Pellegrin's chief responsibilities will be in connection with teaching and research in Industrial Sociology.

**University of Maryland.** A group of seven German penologists has been placed at the University of Maryland by the State Department under a Penal Affairs Project sponsored by the Office of the U. S. High Commissioner for Germany. All of the trainees are engaged in or preparing for work in Germany in the penal affairs field. For two semesters they will attend the University of Maryland, taking courses in the Crime Control Curriculum. Peter P. Lejins is program coordinator of the project, with Edgar Sampson designated as assistant coordinator. The project in question is the first in this field to be undertaken at an American university.

**University of Missouri.** C. Terence Pihlblad has asked to be relieved of the duties of the department chairmanship, a position which he has held for fourteen years. He will devote full time to teaching and research. Toimi E. Kyllonen will serve as chairman.

Noel P. Gist has returned from a year in India under a Fulbright grant. His research, in cooperation with the U.N., was on population movements. Frederick Elkin, who replaced Dr. Gist during the

past year, has accepted a position at McGill University. During the summer he directed a research project at NORC in Chicago.

Robert F. G. Spier rejoined the department after a year of teaching in the Department of Anthropology at the University of Minnesota.

**University of the Philippines.** John E. de Young, former head of the Department, is now teaching sociology at Brooklyn College. He has been temporarily replaced by Chester L. Hunt of Eastern Michigan College. Richard Collier of the University of Hawaii is part-time lecturer in the Department and also at the University of the East.

Severino Corpus, University of Southern California, is instructor in the Department, offering courses in population and social change. Mrs. Carmen P. Talavera has been promoted to Assistant Professor in Social Welfare, and is inaugurating field work training in local social agencies. The Department of Sociology and Social Welfare is preparing plans for a Social Science Research Center to be established at the University of the Philippines.

**Princeton University.** The Educational Testing Service is offering for 1953-54 its sixth series of research fellowships in psychometrics leading to the Ph.D. degree at Princeton University. Open to men who are acceptable to the Graduate School of the University, the two fellowships each carry a stipend of 2,500 dollars a year and are normally renewable.

Fellows will be engaged in part-time research in the general area of psychological measurement at the offices of the Educational Testing Service and will, in addition, carry a normal program of studies in the Graduate School. Competence in mathematics and psychology is a prerequisite for obtaining these fellowships. The closing date for completing applications is January 16, 1953. Information and application blanks will be available about November 1 and may be obtained from: Director of Psychometric Fellowship Program, Educational Testing Service, 20 Nassau Street, Princeton, New Jersey.

**San Francisco College for Women.** The College has abandoned the department system and has adopted the plan of academic divisions, thus making the sociology program entirely independent. Through the extension of the course offerings, a rotation plan, and the use of auxiliary personnel, the college has been able to provide instruction for the 19 per cent of the student body now majoring in sociology.

In order to encourage independent investigation on the part of students of this and other small colleges where large sums of money are not available for research, the Dean has instituted the office of Director of Sociological Research. Allen Spitzer, recently promoted to the rank of Professor of Sociology, was named to the new post. At present projects are under way in cooperation with the California National Guard Reserve for a manpower study, and in the Mexico-Yucatan area in affilia-

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tion with the Universidad Nacional del Sureste at Merida. The second field season in Yucatan was completed in the summer of 1952, and the college has granted a sabbatical leave of absence to Dr. Spitzer for the purpose of language study and urban research in Mexico, with language headquarters at Guadalajara, for the period of February-September, 1954.

Inquiries by students of other colleges are welcome, especially in connection with the facilitation of independent work in the Mexico-Yucatan area in the fields of urban sociology, sociology of religion, and applied anthropology. Communications may be addressed to the Director of Sociological Research, San Francisco College for Women, 2800 Turk Street, San Francisco 18, California.

#### ***Escola de Sociologia e Política de São Paulo.***

A grant has been made to Donald Pierson by the Brazilian government to cover field expenses of present and former students working under his supervision on five comparative community studies in the São Francisco valley. Approximately twenty students are working under Dr. Pierson's direction on studies similar to that reported in *Cruz das Almas: A Brazilian Village*, published last year by the Smithsonian Institution.

***University of Southern California.*** Georges Sabagh, formerly Assistant Professor of Sociology at the University of Washington has joined the staff. He took his degree under the tutelage of Dorothy Thomas. He has specialized in demography, ecology, and theory.

Harvey J. Locke has been promoted to full professor. He has been selected by the Graduate School to give the research lecture for 1953.

Calvin Schmid of the University of Washington was visiting professor in the 1952 summer session.

Melvin J. Vincent represented the University at the annual Phi Beta Kappa meeting at Lexington, Kentucky.

Fifty-six persons have received the Ph.D. degree in Sociology, since 1929 when the department was first qualified to grant the degree.

Bessie A. McClenahan retired at the end of the 1952 school year. She plans to travel and write.

Emory S. Bogardus is beginning his 37th year as editor of *Sociology and Social Research*. He offers seminars in social distance and social psychology under the auspices of University College.

***University of Southern Illinois.*** William J. Tudor has been assigned as Associate Director of Area Services and will devote half of his time to developing and coordinating various services of the University to the area served. He will continue to teach courses in the Sociology Department on a half-time basis.

During the summer quarter J. Charles Kelley directed field research and conducted courses in field methods in anthropology on an archaeological site near Durango, Mexico.

William H. Harlan has been granted a sabbatical leave for the year 1952-53 to enable him to pursue research on problems of older migrants in the area of St. Petersburg, Florida. The research is being financed in part by a grant from the National Institute of Mental Health.

Jack Smith McCrary has returned to the department from a year leave spent in graduate study at Washington University.

Two teaching assistants, Richard G. Robinson and Jeannette Smalley, have been added to the staff of the department.

***Washington University.*** Paul J. Campisi has received a Fulbright Award for research in Italy. He plans an intensive study of two communities, one in northern Italy, the other in Sicily. He expects to have the cooperation of teachers and students of sociology in the universities of Turin and Palermo.

Melville Dalton, formerly of the University of Kansas, has been appointed Assistant Professor. He will teach courses in industrial sociology and social psychology.

Preston Holder, formerly of the University of Buffalo, has been appointed Assistant Professor. He will share in the new introductory course in Human Relations and will teach courses in Anthropology.

Melville Spiro has resigned to accept a position at the University of Connecticut.

## BOOK REVIEWS



*Tjänstemannakåren i det moderna samhället.*

By FRITZ CRONER. Stockholm: Hugo Gebers Förlag, 1951. 506 pp. Skr. 34:-, paper; skr. 40:-, cloth.

The title "White Collar Workers in Modern Society" brings to mind C. Wright Mills' *White Collar*. However, the two books deal with rather different aspects of the same subject: Mills takes for granted that white collar workers are part of the new middle class, and presents a detailed description of their world; but to Croner the questions, "What are white collar workers?" and, "Are they a new class?" are at the center of discussion. Also, Mills, in addition to office workers, pays much attention to junior executives and salaried doctors, lawyers, and professors; while Croner, in addition to office workers, is mostly concerned with "work-leading" (supervisory) personnel in industry down to the foreman.

Croner starts by discussing the hopelessness of any attempt at logical definition of white collar workers. To characterize them by "more intellectual work" or "higher services" will not do if we compare office routine against the highly complex performance of, say, a tool-and-die maker; "non-manual workers" leaves out the mimeograph operators and includes many typographical workers; "those who work in office and business" excludes the time-study man in the shop and makes a white collar worker of the office janitor. The enumeration of jobs often encountered in European pension laws for white collar workers demonstrates its flaws by the litigations that derive from it. Already in 1912 Emil Lederer had to state that "By and large, after all, we know what a white collar worker is," and to call for a functional description.

White collar work, according to Croner, consists of four functions—work leading, constructive and analyzing, administrative, and mercantile—which are all part of the all-inclusive entrepreneurial function. As enterprises grew, parts of that function had to be delegated first to members of the family, then to trusted friends, eventually to hired strangers. Slowly their various specialties developed by stages from apprenticeship to partnership into separate jobs. But with each of the new positions stayed a remnant of the high social status of the entrepreneur whose function it originally represented. Eventually some of that status devolved upon the new white collar man.

White collar workers in public service acquired their high social status in a similar way: The king's functions were delegated to personal representatives and then down a long line of lower functionaries. Again a shred of the original power of the king stayed with the positions and added to the social status of their occupants.

Part II is a detailed and wearisome analysis of Swedish census data to determine the size and historic development of the white collar class. Since most of it developed in Sweden relatively late, numerous white collar families still have their ties with the farms—which provide them with a feeling of stability and security that is rare in industrial countries of Europe. Of interest is Croner's use of his "white collar coefficient" (number of workers per white collar man) to classify enterprises as being on a "craftsman's standard."

Part IV deals with the social origins of white collar workers. Practically all white collar unions distributed a mail questionnaire to a ten per cent sample of their members that brought sixty to one hundred per cent returns. When the two largest unions obtained only sixty per cent responses, they approached an additional one per cent sample with follow-ups and obtained eighty-six percent returns. Sixteen thousand questionnaires were collected.

It turns out that the higher a position is on the occupational ladder, the smaller is the percentage of workers' children among its holders. For example, among office workers thirty to forty years old in high, medium and low positions, 24, 32, and 47 per cent respectively are children of workers. Policemen and non-commissioned officers are more often than others from a farm background.

The social concepts of white collar workers are supposedly dealt with in a survey of 1400 participants in trade union educational courses. However, social attitudes and values are not mentioned in the questionnaire, and the findings are of scant interest to the sociologist. The chapter provides an unexpected anticlimax to an interesting book.

Of greatest interest to the sociologist is Part III. In order to establish white collar as a new class, Croner discusses here the concept of class. "Objectivistic" classifications (based on income and status criteria) and "subjectivistic" classifications (based on what people think of themselves and others) are criticized as nothing but

attempts to arrange the manifold of social phenomena along a single axis. European and American scholars alike are sharply reproved. The primitives who see the world only in black and white, rich and poor, elite and non-elite; the perplexed who, finding in-between people who do not fit, devise an upper-middle-lower scheme; and the sophisticated who refine it from upper-upper to lower-lower, are each in turn taken to task. Marx gets his special share by having pointed out no less than four "contradictory" concepts of class in his writings.

Croner points out that all these schemes may be good for bringing order out of chaos, but they are not social theory. The task of the latter is "to explain the structural elements which through their 'interrelations' characterize what . . . we call the structure of society. These social classes are not only ordering categories . . . but part of our experience. They are social phenomena that we can observe . . . 'real phenomena' not 'ordering phenomena.' 'Social class' is neither an honorary title nor a kind of value judgment."

What Croner does not point out is that "social structure" too is a theoretical concept, rather than a thing underlying our observations. It is our conceptualization of the bewildering multiplicity of observations that we make on individual people and their enormous complex of behavior. Whether we live in a "class" society is to some a disputed question, and those for whom this is settled in the affirmative are far from being sure of what these classes are. Thus we still need some criterion that would tell us whether the "classes" that we use are the "structural elements" of the social "reality" around us, or mere attempts to bring order out of chaos—for which we receive a well deserved lambasting from Mr. Croner.

Unfortunately, Croner does not offer such a criterion. He simply presumes that "similar economic situation, similar social status, and similar social values" describe structural elements of the social reality. Since white collar workers exhibit these similarities, they are thereby defined as a new class.

As long as we are not satisfied with creating social reality in the image of our definitions, but keep searching after the "true" structural elements of society, we can only choose between two alternatives: If we believe in a "true" reality, then we have to try to find absolute criteria that tell us whether a classificatory scheme "really" describes "reality." Or, if we do not see any meaning in the search after such absolute criteria (which smacks too much of "absolute truth") then we have to resort to that mixture of criteria that we use all the time in and out of science: the elusive subjective feel-

ing of having "explained" or "understood" a phenomenon, and the objective criterion of the success of predictions and estimates or the ability to account for new observations.

Hegel's dialectic was an attempt to "explain" the course of history. Marx applied the idea to the concept of a class struggle, thereby trying to "explain" and predict the outcome of social movements and to give advice to his followers on how to influence the outcome. His bourgeoisie and proletariat, with the amorphous middle classes and their impending proletarianization, were the structural elements of a predictive scheme that could be judged by the success or failure of his predictions. Our widespread upper-middle-lower class or social status scheme is at best a classificatory system that, by virtue of a correlation with some underlying structural elements, may help us to predict the outcome of an American election but not the development of a social movement. In Europe, where party members and voters follow their "Weltanschauung," strongly influenced by politicized notions of "class" and "class consciousness," any upper-middle-lower class scheme would add but little to an understanding of social movements and be but a crude instrument for prediction.

Croner's structural elements are obviously a great improvement over any one-dimensional scheme. But as long as he does not provide the criterion for the correctness or for the heuristic value of his classification (depending on the alternative chosen) we are still not at the point where we can adopt his scheme.

Since we in America frequently consider quantitative social research as our special hallmark, it appears useful once in a while to be reminded that others do it too—while at the same time it may be flattering to see how strongly they are influenced by American methods.

PAUL NEURATH

*Queens College, New York.*

*Outside Readings in Sociology.* Edited by EDGAR SCHULER, DUANE L. GIBSON, MAUDE L. FIERO, and WILBUR B. BROOKOVER. New York: Thomas Y. Crowell Company, 1952. xii, 884 pp. \$2.95.

This is a significant book for two reasons: it is oriented to the neglected function of teaching elementary sociology, and it is experimental. Anyone who thoughtfully and realistically evaluates the problem of teaching elementary sociology—particularly in the larger schools—finds little basis for complacency. Most of us feel that the students should read at least some source materials in addition to the basic text, but library facilities are woefully inadequate. Vis-

ualize a few hundred students in Sociology I descending upon the library all asking for Sumner's *Folkways*, of which the library, if lucky, has three badly dog-eared copies, two of which are checked out to graduate students and the third on a faculty charge since Autumn, 1951! Some teachers despair completely and simply present a lecture and textbook course. This book, along with one or two others appearing in recent years, is an attempt to solve the library problem by assembling a wide variety of reading materials within the covers of one book and selling it at a decidedly moderate cost. (One wonders how they do it!) Thus, the student has a beginner's sociological library under his arm. He can read Sumner, Cooley, Lundberg, Veblen, Ross, Ward, *et al.*, in the original—excerpted, to be sure, but still in the original. Used with any one of many standard texts, this book presents more outside readings than a student could reasonably be expected to “cover” for collateral reading. Sociologists will probably not all agree that these editors have chosen the “best” 94 excerpts from extant sociological literature. That seems immaterial, however, because the materials included are so numerous and cover so wide a range of content, viewpoint, and methodology that almost any teacher can select abundant supplementary reading to fit “his” course. Many of the readings cannot truly be called sociological classics. The editors do not claim that they are, but rather that they are highly readable materials and important extensions of sociological thinking.

Only one negative note occurs to this reviewer—and that more in the nature of an apprehension. It would be regrettable if the publishers should attempt to market this book as a textbook or if some hasty teacher should attempt to substitute it for a basic text. To do so would only contribute to the all too current concept among students (and also among our non-sociological colleagues) that sociology consists of a little bit of interesting stuff about a wide variety of subjects with no central core of theory or method. This the authors are aware of—but prefaces are not always read.

JOHN F. CUBER

Ohio State University

*The Changing Culture of a Factory.* By ELLIOTT JACQUES. New York: The Dryden Press, 1952. xxi, 341 pp. \$4.25.

This book is a report of a three year clinical investigation into “methods for creating satisfactory social relationships.” The Tavistock Institute of Human Relations was the investigating agent, and the Glacier Metal Company, an English firm, was the field of investigation.

The book reviewed here is presented by the Institute as a progress report through November, 1950.

The author states in the introduction that he feels the book belongs to that line of inquiry represented by such works as Roethlisberger and Dickson's *Management and the Worker* and Leighton's *The Governing of Men*. In reading this book, this reviewer became interested not so much in the case history nor in the analysis scheme as in the fresh discussion of the role of the clinical investigator and the exposition of how this role was played at Glacier.

Social research in industry received its initial impetus in situations in which a firm or an industrial management paid for the services of a research group. This was interpreted by early researchers as a clinical situation in which the industry was client. None of the people who applied this conception of the clinic in industry were, so far as I know, ever able to say clearly what they meant by the clinical role. Leighton's Poston research and the Glacier project were both carried on by men with medical backgrounds, and not the least of the contributions of these studies has been an increasingly more explicit formulation of the nature of clinical research into social systems.

We see here that that line of inquiry which sociologists call “industrial sociology” is working its way through that dilemma with which it was faced in 1945. At that time the field was coming increasingly under the criticism that the clinical approach, using techniques of direct observation and non-directive interviewing, concentrated upon the social structure of a relatively small and insignificant segment of the population of industry. It was argued that this approach excluded many problems of major interest to sociologists, and in those problems which remained, research workers had by the very nature of the situation a hopeless bias toward the managers who employed them. As Blumer, Moore, and others were pointing out, the techniques used at the time for observation of industrial phenomena did not seem adaptable to the study of problems of peculiar importance in those organizations characterized by the presence of great numbers of people brought together on a segmental and tenuous basis. It was further pointed out that industrial relationships are fluid power relationships.

To many it seemed at the time that industrial sociology must either abandon its approach and techniques for other (probably statistical) approaches, or forego the possibility of working with these grand systems of power relationships. This was the dilemma.

This book gives at least tentative and partial

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assurance that the dilemma can be solved. These investigators have been overcoming the difficulty not by discarding their approach and techniques, but by (1) more sharply defining what they mean by the "clinical role," and (2) shifting their locus of interest.

On the first point, these researchers seem to have redefined the clinical relationship by gaining access to the factory through a process which caused their presence to be sponsored by virtually all of the groups in competition, and by restricting their interaction with factory personnel to those areas of activity directly related to their technical role in the factory. The rationale for this latter decision is an almost complete reversal of the rationale which led to participant observation, and is well worth noting.

On the second point, these researchers have abandoned the traditional focus of interest of industrial research. Social scientists won their spurs in industry observing the worker at his place of work in that area of factory life which lies at the very periphery of the power structure. The book reviewed here contains almost no discussion of the worker, and very little about the social structure of the work group. The focus is on managers and employee representatives, on councils and committees, on plans and policies. This representative of the present generation has evolved considerably from the Hawthorne study, but to this reviewer the researchers' claim to legitimacy in the Mayo line seems justified.

ORVIS COLLINS

*University of Washington*

*The Man on the Assembly Line.* By CHARLES R. WALKER and ROBERT H. GUEST. Cambridge: Harvard University Press, 1952. x, 180 pp. \$3.25.

This is a book that has needed to be written for some time in the field of industrial sociology. The fact that Harvard University published it should not lead the student to anticipate the traditional "human relations" approach; indeed, Harvard is simply the publisher—Yale did the writing. Walker and Guest are associated with the Institute of Human Relations at Yale University.

*The Man on the Assembly Line* is a brief, succinct report on an excellent piece of research dealing with the degrees and kinds of adjustments achieved by workers on an automobile assembly line (in a new GM plant in New England). Much of the general framework of the interpretive side seems to have been influenced by Georges Friedmann's thoughts on the psycho-sociology of the assembly line (*la*

*chaine*), an influence which, if extended in this country, could not help but result in a better American industrial sociology.

The authors are quick to point out the major factors in the total job situation affecting worker-satisfaction: (1) the immediate job; (2) relations among fellow-workers; (3) pay and security; (4) relations with supervisors; (5) general working conditions in the plant; (6) promotion and transfer; and (7) relations with the union. Each of these seven factors is given a separate chapter in the book. A reading of these and the other six chapters gives the reader an opportunity to see the factory as it really is. There is no attempt on the authors' part to impose an artificial, strained perspective upon the phenomenon of the factory. Combined with this quality, there is no element of aristocratic, patronizing condescension with respect to the researchers' evaluation of workers and their union. The worker-group is treated as consisting of normal human beings interested in making a living and getting along with people, imbued with certain feelings of self-respect and dignity—in short, the approach is much more human than that in terms of "occupants of social roles" and high-strung neurasthenics who project their family conflicts onto their work situations.

Again in contradistinction to the above-mentioned human relations approach (especially of the Harvard school), the authors stress the omnipotence of the technological factor in determining the nature of social relationships within the factory. They point out that there are five places in the plant's social organization which are affected by the technology of mass production: (1) the size and function of work groups; (2) nature and frequency of interaction; (3) relations between supervisor and worker; (4) wage structure; and (5) promotions and transfers. The authors' documentation of this proposition provides ample antidote to current views. Peter Drucker recently stated in his paper at the 1952 Atlantic City meeting of the American Sociological Society that the deliberate neglect of the technological factor by the human-relations-in-industry devotees would lead us to believe that there is no difference between working in a flower shop and working in a foundry.

There is much in this small book (17 of the 180 pages are taken up with appendices and index) that will benefit personnel managers and union officials alike. Especially interesting is the discussion on the desirability of job rotation and job enlargement as a means of decreasing the boredom that goes with specialization. The authors maintain that job rotation "does no violence to basic mass production principles,"

and just as important if not more so, it "means job enrichment for the individual." A great deal of attention is paid to attitudes toward the skills required of different jobs and to the resultant morale differentials. These and other considerations are quite important when, as was the case in this study, the problem involves the introduction of non-mass production workers to a mass production job environment (only two of the sample of 180 had ever worked on an assembly line previous to working in "Plant X").

In fact, the reviewer should like to consider the study as contributing to the broader problem of a society's transition to an industrial culture. Walker and Guest apparently consider it in the same way, judging by their quotation from Saint-Exupéry's *Terre des Hommes*: "If we believe that (the Machine) degrades Man, it is possibly because we lack the perspective for judging the end results of transformations as rapid as those to which we have been subjected. What are the hundred years in the history of the Machine when compared with two hundred thousand years in the history of Man? We have scarcely established ourselves in this country of mines and electricity. It is as if we had hardly begun to live in the new house that we have not yet finished building . . . We are in truth pioneers who have not yet established the foundations of our new country."

HAROLD L. SHEPPARD

Wayne University

*Principles of Human Relations: Applications to Management.* By NORMAN R. F. MAIER. New York: John Wiley and Sons, Inc., 1952. ix, 474 pp. \$6.00.

Nominally a psychologist, Dr. Maier develops his principles of human relations from clinical psychology, experimental social psychology, and group dynamics. His aim is to improve supervision by developing skills in the democratic approach through techniques leading to group decisions. He opposes the belief that management goals prevent democracy in industry, and he sees the process of group decision as not "sugar-coated autocracy," or an "efficiency method," or a "speed-up procedure," but a means of increasing job satisfaction for all personnel, which he feels is often more important to supervision than production records.

The author criticizes most supervisory training for focusing only on first-line foremen and for giving them little but a pleasing manner helpful in persuading men to want to do things instead of fearing not to do them. Such training fails mainly because there has been no basic change in supervisory attitudes.

Drawing on Lewin and other students of group dynamics, Professor Maier sketches a theory of democratic management. Then, for building receptive attitudes in supervision he presents a series of experimentally supported discussion methods. This is followed by detailed treatment of role-playing (the laboratory part of human relations training), and comments on the creation of role-playing situations. To show the importance of attitudes over facts in conflicts between individuals, typical problems at the work level are introduced dealing with safety, seniority, promotion, vacations, status feelings, etc. Procedures for group decisions are supplemented with selected cases of results obtained by trained supervisors and unselected cases from the training of large groups. To further clarify the procedure, several attempts that failed to reach group decision are analyzed and later high-lighted by transcriptions of problem-solving conferences. As an adjunct to techniques in the democratic method, the book closes with a chapter and cases on nondirective counseling.

Though noting the need of winning higher management to practice the behavior it approves for first-line supervision, Professor Maier hardly shows how this goal can be achieved and his cases at these managerial levels depict only problems from an office and a restaurant. He also appears to over-simplify the process of democratizing industry. Where the system is autocratic, merely building democratic attitudes in supervisors will scarcely make the organization democratic. In order to protect themselves and survive in the organization, democratic individuals frequently must engage in action contrary to their attitudes, and often they enter problem-solving conferences with their hands tied by informal commitments.

Apropos of group decisions are problems reported in an English study, *The Changing Culture of a Factory* by E. Jaques. Here widespread participation in decision-making contributed to attitudinal conflicts in some officers over the authoritarian-democratic dichotomy. In some instances they sought to escape responsibility and the charge of being authoritarian in carrying out executive functions by delegating responsibility to subordinates who shunned it and interpreted the delegation as authoritarian behavior. This study suggests that Maier's broad application of Lewin's findings (based on study of children) to responsible adults subject to a variety of contradictory pressures may have unappreciated weaknesses.

These criticisms cannot obscure the fruit of Maier's years of professional contact with industry. He is well aware that misuse of participation techniques can surround the pleasing

autocrat with "yes-men." If seriously adopted and systematically followed, his approach doubtless will reduce many tensions at the work level and higher, wherever it can be made to function inside changing limitations. Significantly, in some plants where the methods were used, even union leaders showed interest in the training.

MELVILLE DALTON

Washington University  
St. Louis

*Some Factors Influencing Postwar Emigration from the Netherlands.* By WILLIAM PETERSEN. The Hague: Martinus Nijhoff, 1952. xi, 80 pp. No price indicated.

This study is the sixth in a series of brief monographs recently published in English by the Research Group for European Migration Problems founded last year by a number of Dutch and German social scientists. Its formation was a response to the serious problem of population pressure which faces certain Western European countries today, notably Germany, Italy, and the Netherlands. The group's members are convinced that free migration is essential to European integration and their work "is to be chiefly concerned with questions of immediate and practical significance." However, the publications of the group represent studies by independent writers who do not necessarily always agree with one another or with all of the group's objectives. The study reviewed here provides ample proof of the scientific integrity and objectivity with which this group approaches the analysis of migration problems. Its author is an American demographer presently engaged in a study of Dutch population problems as the holder of a fellowship awarded by the Netherlands government.

Although primarily concerned with postwar emigration, Petersen starts with a brief survey of Holland's past population growth. The demographic trend in the Netherlands has differed sharply from that of Western Europe as a whole. For reasons never adequately explained so far, the decline in the birth rate has followed the decline in the death rate more slowly there than in other Western European countries so that the Dutch population has grown rapidly; it has doubled during the last fifty years. Unfortunately, the last war partly destroyed the economic base on which this increase rested. The country was not only devastated but also lost its most important colony. Thus there arose a postwar gap between the rapidly grow-

ing population and the war-damaged economy, stripped of Indonesia. Under such circumstances it is hardly surprising that the postwar years have been marked by an unprecedented interest in emigration on the part of both the people and the government who look to emigration as a possible partial solution for population pressure.

Postwar emigration from the Netherlands has been directed primarily toward overseas countries with a Western culture, like Canada, Australia, and New Zealand, where rapid economic development during and after the war has resulted in some relaxation of strict immigration barriers. Although the dominions all have a policy favoring British immigrants their number is insufficient to fill the demand, but the Dutch are usually considered second only to the British as welcome immigrants. Taking advantage of this favorable prejudice, the Netherlands government has concluded bilateral agreements with these countries which provide assistance to qualified Dutch emigrants by both governments concerned. On the other hand the Dutch government imposes currency restrictions on future emigrants. Thus postwar emigration from the Netherlands is essentially government-controlled, not free, migration. Emigration to the United States is strictly limited because of our fixed-quota system, while countries like South-Africa, Indonesia, Brazil, and Argentina admit only those with high skills.

Despite the particularly favorable position with respect to emigration possibilities and despite governmental sponsorship, emigration has brought Holland little relief from population pressure to date. Nor is it likely to do so in the future because high fertility and low mortality remain the basic factors. As Mr. Petersen points out, emigration as well as further industrialization are both necessary and important in the Netherlands today but they will not be effective unless fertility is controlled. "The crux of the population problem in the Netherlands is the high fertility, and if this is not attacked directly it is unlikely that the population problem will be solved."

Petersen's competent and scholarly analysis enriches the literature on comparative demography and makes a definite contribution to our understanding of international migration problems. Professors E. W. Hofstee and Kingsley Davis have contributed lucid prefaces and a good French summary is also provided, but one misses an index and a bibliography.

KURT B. MAYER

Brown University

## BOOK NOTES

*Statistics for Sociologists* (Revised Edition). By MARGARET JARMAN HAGOOD and DANIEL O. PRICE. New York: Henry Holt and Company, 1952. xii, 575 pp. \$5.75.

This revision of a well known statistics text is considerably shorter than the first edition for two reasons. Part V (Selected Techniques for Population Data) has been omitted, and sections devoted to computation procedures have been substantially reduced. Both reductions are to be commended. As the authors state, the specialized field of population techniques cannot be adequately treated in a general text in social statistics. And the reduction in computation sections results in a more readable text, especially in the chapters of Part IV (Statistics of Relationship).

The general organization of materials has been retained, but revisions to include recent developments in methods or applications and to use more current materials for illustration have been incorporated to advantage. The chapter on indexes and scales has been revised to include the Guttman techniques; Kendall's relatively new coefficient of rank correlation ( $\tau$ ) has been added to the section on rank correlation; and the Appendix has two useful additions—a list of most frequently used formulas and a new table which facilitates tests of significance. Two chapters have been added—one on recent advances in the application of sampling methods to social and economic surveys and one on the use of factor analysis in sociological research with several illustrations utilizing social and economic data.

Extensive rewriting of the presentation of contingency and the analysis of variance has improved these two chapters. The contingency chapter has been cut almost in half, and students should find it easier to read. Revision of both the theoretical treatment and computation guide for analysis of variance results in a shorter more easily understood chapter, though an inadvertent error on page 390 in the interpretation of the F test may be confusing to students who have difficulty with the logic of tests of significance.

In the opinion of this reviewer, users of the text will find it retains the merits of the first edition and that the revisions bring it up to date and condense some previously wordy and repetitious sections into a more concise presentation.—EVELYN M. KITAGAWA

*La Criminalita Come Problema Medico-Sociale*. By B. DI TULLIO. Roma: Istituto Di Medicina Sociale, 1951. ii, 222 pp. 1200 Lire.

*La Criminalita* is an abridged version of Professor Di Tullio's earlier publication *Criminal Anthropolgy* enriched with materials from his treatise *Emendative Medicine*. This volume has a twofold recommendation favoring it: it epitomizes current trends of thought of a majority of European criminologists; and the condensation has forced Di Tullio to alter his writing style, with the result of eliminating the obscurantism of his major opus *Criminal Anthropolgy*.

Sheldon-like in his general approach to the scientific study of crime, Di Tullio has attempted to correlate the bio-typological scheme of the Italian physician Pende with personality characteristics of inmates studied. In this respect, Sutherland's criticism of Sheldon would likewise apply. Fortunately, Di Tullio only gives "lip-service" to this approach, since his major emphasis is that of the social-psychology of crime with consideration of the criminal as a unitary personality structure.

The content of this volume is similar to that of most American texts dealing with the subject matter of criminology. Di Tullio systematically discusses the personality of the delinquent, the etiology of crime, the dynamics of criminality, classification, and concludes his volume with chapters devoted to prophylaxis and therapy for the delinquent. Of special interest to the American reader would be the sections on dynamics and therapy.

Di Tullio's theory of criminality is reflected in his treatment of the dynamics of crime. His two major explanatory concepts are those of "criminal resistant tendencies" and "criminal impellent tendencies." Herein lies a fallacy. Italian and other European criminologists are forever criticizing Americans for their supposed lack of criminological theory. We are forced to consider these persons critics if evaluation of their own theoretic formulations were attempted within the analytic scheme proposed by philosophers of science. Di Tullio's theory, and this is generalizable to other European theories of criminality, is not a theory, but a conceptual elaboration. Intellectual honesty makes mandatory the statement that the concepts proposed by Di Tullio do show promise in that they *can* be defined operationally and

they offer soil for the development of a systematic theory of criminality.

This text is one of the few from the recent crop of Italian publications on criminology that would warrant translation into English.—ANTHONY J. CACIOPPO, *Fulbright Scholar, Università di Roma*

*Thinking: An Introduction to Its Experimental Psychology.* By GEORGE HUMPHREY. New York: John Wiley and Sons, Inc., 1951. xi, 331 pp. \$4.50.

As the subtitle suggests, this volume is devoted to a discussion of experiments on the activity of thinking. Professor Humphreys has selected and organized his material as follows. The volume opens with a chapter on the theory of association both in its classic and its behavioristic form (i.e., conditioned reflex theory). There follow two chapters on the contributions of the Würzburg group to the analysis of thinking, with the notion of imageless thought and the introduction of motive, into their experiments on thinking, in the form of a task or determining tendencies, emerging as their most important contributions. The fourth chapter is a critical appraisal of the work of this group. The fifth chapter deals with the experimental work of Selz which was substantially an extension of and development from the Würzburg group. The sixth chapter, the Gestalt theory of thought, develops and assesses this group's major notions that the motive force in thinking is the dynamics of the problem-as-perceived and the associated theory of perceptual reorganization. In the following chapter, Thought and Motor Reaction, in addition to a general survey of experimental findings, Professor Humphrey devotes space to a statement and refutation of the "peripheral theory of thought," concluding that the general relation of muscular activity to thinking is in all probability facilitative in character. A considerable part of chapter eight titled Language and Thought is devoted to an exposition of the evidence running counter to the notion which identified language and thought; full weight is however given to the importance of language for thinking. Chapter nine presents in summary form a very considerable amount of the experimentation addressed to problems of generalization. The volume concludes with a short statement summarizing the present views on thinking and a suggestion concerning the central problem areas of this aspect of cognition.

Professor Humphrey has written a critical survey of the experimentation on thinking during the past fifty years that covers the field

generously. His excellent summaries which are included at strategic parts of the argument speak well for the orderliness of his own thinking and for his concern for the reader.—ELY CHERTOK

*The New Man in Soviet Psychology.* By RAYMOND A. BAUER. Cambridge, Mass.: Harvard University Press, 1952. xxiii, 229 pp. \$4.00.

Every impartial psychologist knows that he unconsciously adopts the assumptions of his culture. In Soviet psychology the assumptions are deliberately structured and mediated by individuals who have an explicit ideology to defend. The relationship between psychology and society, always of first importance to the Soviet psychologist, is rigidly controlled. The Soviet psychologist is guided by the principle of "party vigilance"—by how his work contributes to the Party program and the Soviet system. In this atmosphere Soviet psychology has gone through several changes and reversals. The greatest shifts have taken place since 1936. The original stress on determinism and reflexology has given way to the importance of consciousness and autogenetic movement. Today man is conceived as a being full of potentialities. He is shaped both by his own ideals and the agencies which form the "communist morality" into a self-developing person.

Bauer's book lucidly and authentically presents the development of Soviet psychology since the Revolution. No serious students of psychology can afford to ignore it. It should serve him at once as important information and as warning of the fate of science in a society where social and political considerations outweigh search for truth and knowledge.—HUBERT BONNER

*Creating an Industrial Civilization: A Report of the Corning Conference.* Edited by EUGENE STALEY. New York: Harper & Brothers, 1952. xvi, 368 pp. \$4.00.

The Corning conference brought together nearly one hundred leaders from management, labor, government, arts and professions, science, and humanistic studies. This book brings together for the reader a multiplicity of ideas resulting from this cross-fertilization of contrasting views. The rapporteurs and editor have presented what to them represented the major themes of discussion flavored with frequent quotations from the stenotype record of the conference. Although written for a broad public, the researcher will find an abundance of thought-provoking ideas which may stimulate formulation of fruitful research hypotheses.

The roundtable discussions and the three general sessions are reported in Part One, while Part Two contains the background papers which were distributed to the conferees prior to the discussions. This arrangement is unfortunate since familiarity with these papers is essential to adequate understanding of the discussions. Relationships between work satisfactions and organizational structure, leisure and the influence of mass media, industrialization and resulting segmentation of life and groups, rapid change and economic security, participation, feelings of belonging and faith are among the major topics discussed. No formal conclusions or recommendations were reached nor anticipated. In the words of one rapporteur "most of our effort was spent in arriving at the edge of this awareness that 'human beings' have been 'fighting back' for many years" against those parts of industrialization that dissatisfy them. That industrialism was a "package" product containing "its own built-in aesthetic, its own morality, its own 'human' and 'spiritual' penalties and rewards" generally was conceded. Just what these penalties and rewards are remains to be specified.—CHARLES D. MCGLAMERY

*Business Be Damned.* By ELIJAH JORDAN. New York: Henry Schuman, Inc., 1952. xiv, 267 pp. \$4.00.

Jordan, a philosopher, presents an ideal-typical picture of the businessman as seeking control for private advantage only. The businessman is thus completely amoral, under which conditions the satisfaction of consumers' needs is a matter of chance. The author further maintains that this attitude now permeates the professions, politics, and law, since businessmen control these pursuits through being able to purchase the services of their practitioners.

He urges the elimination of the businessman (not saying how) and an increased recognition of the rise of the "corporate person" to whom the notion of private advantage is inapplicable. By "corporate" he seemingly means the person conceived of in the totality of his social relationships.

Documentation of the thesis is unfortunately sparse. One gets the impression that the book was written in a state of white heat or fury to the extent that the author did not stop to present evidence for his accusations. If the author is serious, then the book would gain much by being augmented with such evidence. On the other hand, if he feels that the argument is so obvious as not to require facts, then the book could be much shorter.—EDWARD GROSS

*Social Provision in Rural Wiltshire.* By H. E. BRACEY. London: Methuen & Co., Ltd., 1952. xix, 204 pp. 21s.

This research monograph is a very careful, detailed study of the neighborhood and community organization patterns in the county of Wilts, at least 75 miles west of London in Southern England. This county is considered representative of rural England, although over 68,000 of its population live in Swinton, its principal city.

Thirty-eight county maps tell the story of over-lapping service areas for public utilities, transport services, professional services, places of assembly, and social organizations. From these data, the author prepares an "index of social provision" for 265 of the civil parishes in the county. His principal objective is the scientific determination of "median areas" that correspond to the realities today in the administration of the county's activities. From the data he develops eleven probable median areas to cover the county's population of 350,600.

The nearest counterpart of this research in the United States is the series in rural social organization of selected counties done by agricultural experiment stations in cooperation with the U. S. Department of Agriculture. The only American studies referred to are the Cornell agricultural bulletins on rural social organization in the 1930's. For an American professional audience, a map of South England, locating this county midway between London and Bristol, would have been useful.—MERTON D. OYLER

*Race-Relations in Ancient Egypt: Greek, Egyptian, Hebrew, Roman.* By S. DAVIS. New York: Philosophical Library, 1952. xiii, 176 pp. \$4.50.

This is a scholarly work by the Senior Lecturer in Classics at the University of Witwatersrand. It describes the relations between Greeks, Egyptians, Jews and Romans in ancient Egypt, especially in that turbulent metropolis of Alexandria. The author used the best literary and historical sources as well as data from archaeology, inscriptions, and papyri.

The book is divided into three parts. The first deals with Greek-Egyptian relations. It treats early Greek exclusiveness, Alexander's efforts to diffuse Hellenism and to weld the diverse peoples of his empire, and the influence, in turn, of Egypt upon the Greeks. Part II treats the relations between Jews and Egyptians, contacts between Jews and Greeks in Alexandria (which he thinks was the birthplace of anti-Semitism), and finally the fusion of the two cultures (e.g., in Philo). Part III tells of the Roman conquest of Egypt, and

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contrasts Roman and Greek policies respecting ethnic minorities.

This book effectively refutes the current myth that race problems are a phenomenon of the modern world. The author discovers in ancient Egypt abundant evidence of the prevalence of all the problems so familiar to the student of present-day intergroup relations—ethnocentrism, assimilation, miscegenation, discrimination, anti-Semitism, riots, pogroms, etc. He has made a unique and valuable contribution.—BREWTON BERRY

*One America: The History, Contributions, and Present Problems of Our Racial and National Minorities.* (3rd edition.) Edited by FRANCIS J. BROWN and JOSEPH S. ROUCEK. New York: Prentice-Hall, Inc., 1952. xvi, 764 pp. \$5.00.

The editors have done a commendable job of revising this well known text on ethnic relations in this country. Part One consists of two introductory chapters on the meaning and backgrounds of minorities. Part Two analyzes forty-four minorities in terms of historical factors, periods of immigration, cultural problems, and contributions to the American culture. In most instances the description of a given minority was authored by a member of the respective minority. In Part Three the reader will find a discussion of the activities of minority groups including foreign language press, organizations of minority groups, and political activities. Part Four points up some of the more important racial and cultural conflicts of minorities. Trends toward "cultural democracy" serves as a conclusion to the text.

There are certain obvious strong points in this work: (1) it contains probably the widest coverage of minorities found in any competing text, (2) a ring of authority is detected in most of the selected readings, and (3) a definite effort has been made to give the reader the most recent facts, figures, and trends in ethnic relations. However, there appear certain weaknesses in this work: (1) the very wide coverage of ethnic groups has made the analysis scant and perhaps uneven (three pages to the Spanish and about five to the Basques, four pages to the Greeks and ten pages to the Italians, etc.), (2) some minorities seem to have "contributed" more to the American culture than others if the readings are taken at

face value, and (3) it is a question whether or not there are the following "minorities" in the United States at the present time: British, Irish, Canadians, and French. How much "visibility" does the old stock retain? In spite of observed shortcomings in this text, college students are likely to enjoy its sweep of information, its eclectic point of view, and finally, its tolerant spirit toward cultural differences manifested by contemporary minorities in the United States.—EDWARD C. McDONAGH

*The Puritan Heritage.* By GEORGE M. STEPHENSON. New York: The Macmillan Company, 1952. 282 pp. \$3.50.

This is a contribution to what historians call "social history," viz., movements, institutions, culture patterns not generally emphasized in standard history textbooks. The author's conception of "Puritan" is loosely stretched to include practically every non-conformist Protestant movement from Quakerism to frontier revivalism, with additional chapters on a variety of 19th century interdenominational enterprises—the American Home Missionary Society, the American Tract and Bible Societies, the Sunday School Union, Abolitionism, and the Temperance movement.

The treatment of material is interpretative in the sense that the author attempts to reconstruct enough of the characteristic premises and attitudes found in each movement to make it understandable to the reader. No hypotheses are tested or even explicitly formulated, no biases are avowed, and the data presented are not readily verifiable. As a result the study emerges as a highly personal, compact, readable work of art, not a contribution to social science in any strict sense.

A more detached attitude on the part of the author might have permitted him to say more about the less pleasant features of the heritage he describes: only slight reference is made, for example, to the witch hunts. Moreover, it seems hardly appropriate to lump together as "Puritans," or even as products of any puritan tradition, all Protestant non-conformity. Finally, one might doubt the author's oracular assertion in his closing paragraph that "The twentieth century needs such sermons and writings as Puritans of colonial New England heard and read. . . ."—ALLAN W. EISTER

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# American Sociological Review

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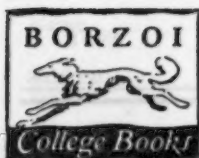
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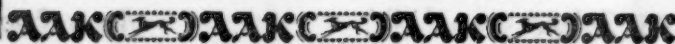
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